

Governing Higher Education: Research Pooling in Scotland

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Doctor of Education**

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Declaration

- I have composed this thesis
- The thesis is my own work
- The thesis has not been submitted for any other degree or professional qualification except as specified

Signature:

Acknowledgements

The final stage of the thesis provides me with an opportunity to thank the many people who have helped, supported and inspired me.

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ABSTRACT OF THESIS

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Research pooling refers to a new form of collaboration between higher education (HE) institutions in Scotland under the auspices of the Scottish Funding Council (SFC) in which research resources in specific areas are shared, or pooled, across Scotland with the aim of enhancing research competitiveness. This thesis is a study of research pooling as a policy initiative. It suggests that the policy initiative warrants examination because it is a highly *innovative* policy that introduced new structures, relationships and practices in HE in Scotland. Moreover it did so through a *collaborative* policy process that appears at odds with the recent highly competitive and selective framing of policy in Europe and the UK. The thesis contrasts research pooling with policy solutions pursued in England and argues that it offers a *distinctive* approach to developing and sustaining world-class research in the global knowledge society, and (post-RAE 2008) has the characteristics of a *successful* policy development that attracted widespread support. This prompts a number of questions addressed in the thesis about the development of the policy in Scotland, including the importance of the specific policy context, the significance of the timing of the policy development; and questions about why it developed so quickly. In more general terms, the thesis also considers the significance of the development of research pooling policy for our understanding of the steering of research and higher education in globalising contexts. Thus the thesis is informed by literature on globalisation, particularly that which is attentive to the interaction between the global and local. It also engages with the policy imperatives of building global knowledge societies and economies, and the 'travelling' policies they engender. It considers the significance of embedded factors in the 'local' Scottish context; and how these play out in academic culture and in tension with managerialism. Finally the thesis connects to the theme of governance of research and higher education through consideration of aspects of the operation of policy networks and policy communities.

The methodology of the thesis is interpretive and works with the idea of a policy 'narrative' that allows the actors to 'speak' for themselves, constructing a narrative of the process of policy formation as they wish to present it. The methodology assumes that each of the actors represented in the data is mobilising particular resources in order to promote and maintain their individual and collective interests. Thus, the analysis interprets these narratives with attention to the work they do in protecting and maintaining power. Semi-structured interviews with sixteen actors from Scottish Government, SFC, universities and other HE bodies generated data that were then analysed as 'interpretations of interpretations'. The approach illuminates the 'assumptive worlds' of policy-makers, and their emergent networks in the context of post-devolution policy for HE in Scotland. The analysis of the data suggests that research pooling, as a policy initiative, contrasts with much recent policy in HE in the UK, as it works with the grain of academic culture and appeals to ideas of self-determination, autonomy and sovereignty within the academic community. 'Hard' forms of managerialism and governance were rejected in favour of 'soft' governance, drawing people into the policy process, and the policy network was characterised by trust relationships and high levels of personal commitment. This may be seen as a highly developed form of network governance. It also highlights the significance of cultural and political context in the translation of global imperatives into local contexts.

Terms and Abbreviations

Terms

Scottish Government

The term 'Scottish Government' replaced the former 'Scottish Executive' in 2007, and is used throughout the main text for consistency. Some quoted text refers to the 'Scottish Executive' or the 'Executive' and where this occurs should be taken to refer to the Scottish Government.

Scottish Funding Council

The Scottish Funding Council was formed in 2005 and replaced the previous Scottish Higher Education Funding Council (SHEFC) and the Scottish Further Education Funding Council (SFEFC) by a single funding body. The term is used throughout the main text for consistency although it should be noted that some quoted text refers to SHEFC and SFEFC.

Abbreviations

CMG	Central Management Group
CSR	Comprehensive Spending Review
DfES	Department for Education and Skills
EAZ	Education Action Zones
EHEA	European Higher Education Area
ERA	European Research Area
ERC	European Research Council
ESRC	Economic and Social Research Council
EU	European Union
Executive	Scottish Executive
F&GP	Finance and General Purposes Committee
FP7	Seventh European Research Framework Programme
GDP	Gross Domestic Product

GVA	Gross Value Added
HE	Higher Education
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
KE	Knowledge Economy
ITI	Intermediate Technology Institute
LERU	League of European Research Universities
MSP	Member of the Scottish Parliament
NDPB	Non-Departmental Public Body
NPM	New Public Management
OECD	Organisation for Economic Cooperation and Development
OST	Office of Science and Technology
QR	Funding Stream based on Quality of Research
RAE	Research Assessment Exercise
R&D	Research and Development
SFC	Scottish Funding Council
SFEFC	Scottish Further Education Funding Council
SHEFC	Scottish Higher Education Funding Council
SNP	Scottish National Party
SSAC	Scottish Science Advisory Committee
SUPA	Scottish Universities Physics Alliance
US	Universities Scotland
UUK	Universities UK

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Chapter One

Introduction and Overview

This thesis examines the development of research pooling policy in Scotland. Research pooling was publicly announced in November 2004 by the Scottish Higher Education Funding Council (SHEFC) [now the Scottish Funding Council (SFC)] at a seminar on *'Enhancing Research Competitiveness in Scotland'* (SHEFC PRHE/06/04, 2004c). The new policy was intended to encourage and facilitate research collaboration between universities at the subject, or discipline, level: *'pooling academic expertise and physical resources across institutions'* (SHEFC HE/31/04, 2004b:para 2). The SFC had *'no single model for pooling'* (SHEFC HE/31/04, 2004b:para 8) but anticipated that pooling would require *'a greater and deeper degree of collaboration among a larger group of institutions than has generally been the practice to date'* (SHEFC HE/31/04, 2004b:para 9). This suggested significant change to the 'research landscape' of Scotland and, indeed, the SFC required the creation of new governance structures, and that *'the pooling structures must have a degree of explicitly agreed and recognised autonomy from the stakeholder HEIs...'* (SHEFC HE/31/04, 2004b:para 9). These new pooling structures were to be *'selectively inclusive, ie. all institutions should be able to participate, provided they possess relevant researchers of an international calibre'* and they should *'result in a sustainable step change improvement to the Scottish elements of the UK research base'* (SHEFC HE/31/04, 2004b:Annex A para 1). Funding would be provided by the Scottish Government through the SFC, by the universities involved in each research pool and, in the case of the first pools established, by the Office of Science and Technology (OST).

In the announcement of the new policy it was observed that *'research is an increasingly fierce competition on an international stage'* (SHEFC PRHE/06/04, 2004c:2) and that:

The aim is to develop a distinctive, radically new research landscape in Scotland with powerful well-resourced research communities, attractive

to leading researchers around the world, and producing world-class research (SHEFC PRHE/06/04, 2004c:2).

The policy had the support of the Scottish Executive (now the Scottish Government), and the Deputy First Minister and Minister for Lifelong Learning said that *'collaborative and creative ventures such as [research pooling] will be crucial to ensuring the Scottish research base is able to maintain its competitive edge both internationally and within the UK'* and that:

I do not exaggerate by saying that the competitiveness of our research is fundamental to our efforts to build a flourishing knowledge economy, fit for the 21st century. [The announcement of research pooling] will, I am sure, be an important milestone in this endeavour. From it I hope will flow a new drive and determination to see what can be achieved by collaboration across institutions and across disciplines (SHEFC PRHE/06/04, 2004c:2).

The proposed benefits of this new approach to research in Scotland also suggested significant change in the relationship between institutional and national planning of research *'allowing research direction and investment in facilities to be planned and coordinated at a national level within broad discipline areas'* and also: *'facilitating long-term strategic planning and foresight activities which could add value to investment and also avoid unforeseen research market failures eg. the unplanned closures of departments'* (SHEFC HE/31/04, 2004b:Annex A para 2).

From the early stages of its development the policy approach had *'positive support from the sector'* including the academic community, Universities Scotland (US), the Scottish Science Advisory Committee (SSAC) and the Scottish Government (SHEFC HE/31/04, 2004b:para 3). The scope of this study is the development of research pooling policy, and it is therefore concerned principally with the period between the outcome of the Research Assessment Exercise (RAE) 2001 and the announcement of the first pools in November 2004. It should be noted, however, that pooling has continued to develop since its inception and is regarded as a policy success that has created the conditions in which:

[Research pools] provide enhanced leadership, facilities, shared access and resources to over 50 per cent of the Scottish research base. More than £300 million has been committed so far and there is a steady flow of new pooling proposals in the pipeline (Gani, 2008:16).

Following the announcement of Scotland's performance in RAE 2008, under the heading '*Pooling Hailed as Key to Scottish Improvement*', it was reported that '*many in the [HE] sector attributed the improvement to [research pooling]*' and noted that: '*the proportion of top-rated research has improved significantly in economics, physics, chemistry and some areas of engineering, which were among the first areas to win SFC support for pooling*' (Wojtas, 2009:paras 3-4).

Research pooling policy emerged relatively quickly in the higher education (HE) sector as a major strategic change in the way a significant element of university research in Scotland is organised, funded and carried out, yet it is often assumed that higher education is resistant to change (Smith, 1999:169). From this perspective, it is argued that the academic community has tended to view change as interventionist and to subvert initiatives and policies that it regards as a challenge to the principle of autonomy. Thus, in terms of policy, the higher education sector has tended to be regarded as conservative and one in which change happens slowly, however, in the example of research pooling there is something that looks quite different. Research pooling is a highly *innovative* policy, introducing new relationships and patterns of working between university researchers, universities themselves, and between universities and the funding council. It is also a highly *distinctive* policy initiative from that pursued in England given that both countries were faced with the same challenge of finding a way to develop and sustain world-class university research in the global knowledge society. It is also an example of a *successful* policy development, attracting widespread support. How can we explain this apparent departure from convention?

The thesis, therefore, examines how the policy process developed and how the network of policy-makers operated to produce a consensus in support of a policy that would change the way a significant amount of research undertaken at Scotland's

universities would be organised, managed and funded. My argument is that this innovation was able to happen because of its context and its form. In other words, that the cultural context in Scotland, together with the working of the policy network involved in developing research pooling, enable us to account for this innovative, distinctive and successful policy development. My interest, however, goes beyond investigating research pooling for itself, and also considers it as a development in research steering in the context of global developments to change higher education. Research steering practices have been observed across the world in a range of national contexts. In Argentina, for example, Garostiaga notes steering towards, among other things, *'adapting the educational system to the global economy'* (Garostiaga *et al.*, 2006:119). In Canada, Dehli and Taylor report on calls for *'changes in the governance of research in terms of the demands of a new global economy'* and that: *'in the quest to govern research and researchers more effectively, audit and ethics come together and researchers become both the target and the vehicle of government'* (Dehli and Taylor, 2006:106-107). In relation to education research in France, van Zanten observes that *'the role of the DEP (Direction de l'Evaluation et de la Prospective) has also extended, in recent years, to co-ordinating and driving educational research'* and that: *'differences still exist between the predominantly cognitive rationale of researchers engaged in the pursuit of knowledge and the predominantly instrumental rationale of the DEP, whose evaluations are geared towards control'* (van Zanten, 2006:262). This study, therefore, investigates pooling in Scotland in order to explore the wider issue of the relationship between global pressures and contextual issues in determining how universities organise their research. Consequently, the primary research question of the study is *'how can research pooling policy be understood?'* This question relates to larger sets of issues about how policy is understood in higher education in the current context. These questions are:

Firstly, how important is context in explaining policy in higher education in the present time?

From this, specific questions emerge, including:

- Was this a distinctive policy approach, influenced by the Scottish policy context?
- Was there a shared view about 'Scotland' and Scotland's needs?
- Where did such a shared view of what was right for the sector in Scotland come from, and how was it sustained throughout the process?
- Did the political environment (devolution; Scotland within the UK and Europe) influence policy-making?

Secondly, who 'steered' policy in the current context of higher education, who had power, who mobilised resources, and how was this done?

From this, sub-questions emerge, including:

- How was the policy steered and moved forward in a 'conservative' policy community, how was such rapid and innovative development achieved?
- Who were the key actors: government, funding council, universities, managers or academics?

In seeking to provide an understanding of research pooling policy, the thesis explores issues including, the nature of academic support for the policy, the workings of the policy community, governance and steering of higher education and research, the influence of the specific context of Scotland, and the relationship of global, 'travelling' policy and local 'embedded' policy to the development of pooling. The thesis illuminates the policy process through the perceptions and experiences of those most closely involved. This is, in effect, a '*sociologically informed study of education policy*' (Ozga, 1990:361) that does not assume that policies are '*clear, abstract and fixed*' but rather understands them as constructed through processes that may be '*awkward, incomplete, incoherent and unstable*' (Ball, 1997:265). The thesis uses the 'policy case' of research pooling to contribute to an understanding of policy-making in post-devolution Scotland, and as an example of how global policy developments are mediated by local contexts.

Overview of Research Design and Methods

Following on from identifying my fundamental research question as *'how can research pooling policy be understood?'* I selected a research design and methods appropriate to the question and that also reflected my view that social research is different from research in the natural sciences, since as Hughes and Sharrock observe *'human beings are both the subject and object of inquiry'* (1997:101). The consequence of this is that *'unlike physical phenomena, social actors ascribe meaning to themselves, to others and to the social environments in which they live'* and, therefore, I thought it important to my research design that the research data *'must derive in some way from the lives of the social actors being studied'* (Hughes and Sharrock, 1997:104). I therefore rejected positivist research models that I considered were *'of limited use in the investigation of contemporary policy'* (Duke, 2002:42). In order to address my research question I felt it important to access the meanings of individuals and groups in the higher education policy community responsible for the development of research pooling policy. My research design, therefore, reflects an interpretive stance and I accept the view expressed by Angen that:

Interpretive researchers assume that reality as we can know it is construed intrasubjectively and intersubjectively through the meanings and understandings garnered from our social world. There can be no understanding without interpretation. (Angen, 2000:385).

In this way, I accept my interviewees' narratives as revealing their subjective understanding, however, these are not taken to be 'truth' since *'according to hermeneutics there is no "truth" behind a performance, nor is there an original version against which a reproduction must be compared'* (Ezzy, 2002:24). I therefore selected qualitative research methods as being suited to eliciting the meanings of actors and since: *'reality is at least partly socially constructed by people who are living it... The meanings held by actors regarding their actions, whether latent or explicit, are primary'* (Riehl, 2001:117).

Interviews and Document Analysis

Consequently, my research design involved interviews with those closely involved in the development of research pooling, and interpretation of documents that were central to the development and implementation of the policy.

In the case of the interviewees, these were individuals who '*were considered to belong to a central core of influence in the policy process*' (Duke, 2002:43). In this way it was intended to illuminate the policy process and gain some insight into the workings and 'assumptive worlds' of the policy community that otherwise would not be visible: '*the activities that take place out of the public or media gaze, behind closed doors*' (Lilleker, 2003:208).

In selecting individuals for interview I thought it important to reflect the perceptions and experiences of the different groups of interest involved in order to obtain a holistic view of the process and to be able to assess these data in relation to each other as a means of cross-checking and also building understanding of network relationships. I, therefore, identified from documentary analysis and pilot interviews the key interests involved and within those the key individuals involved from the early stages of the development of the policy through to implementation. My purposive sample (May, 2001:95) therefore contained three individuals from within the Scottish Government representing the most senior officials and the minister responsible; four individuals from the Scottish Funding Council including those officers and council members in the most senior positions; the Principals of three of the four universities involved in the early stages of the policy process; three senior academics involved in the development of one of the first research pools; and the Director and Chairperson of two influential bodies within the HE sector that had a role in the development of research pooling. Sixteen interviewees participated in the study and the list of institutions and the job titles of participants at the time of their involvement in the development process is given in Appendix III.

At this stage of selecting individuals for interview I was aware that the choices I was making would have a bearing on the study. At the forefront, however, was that the study should attempt to understand the process of policy formation from the perspectives of those most closely involved. I therefore identified those individuals who were both representative of the major interests and who were most closely involved in the policy process, and the study is centred on their accounts of their lived experience. I did, however, consider the possibility of interviewing individuals who were not involved in the policy process, however I rejected this since they could not help me to understand the research pooling policy process from within. They could provide a perspective on what it is like to observe a policy in formation from the 'outside', however I considered this would shift the focus of my study away from its central aim.

Semi-structured interviews involving a schedule of open-ended questions (Appendix II) were used in order to provide an overall structure to the interview and ensure that similar information was elicited from each interviewee yet at the same time this created the space for individuals to develop a narrative and it also enabled me to probe and explore within broad areas. Data was recorded throughout all interviews and a transcribed text produced. Written notes were made during the interview covering what seemed at the time to be major points, or data that contradicted or confirmed those from other interviews.

Preparing for Interviews

Prior to each interview I reviewed the relationship of the interviewee to the policy process, located their relationship to others involved in the process and attempted to view the policy process from their perspective. In doing so I followed the advice of Lilleker that:

One must ensure that one has as good a knowledge of the facts as is possible from existing primary and secondary sources, and one should have detailed knowledge of the interviewee, particularly their role within the event or activity being studied (Lilleker, 2003:12).

Having prepared in this way I then referred to my general interview guide (Appendix II) and developed this to reflect the interviewee's perspective and this enabled me to frame my general questions in the context of their experience.

Document Analysis

I used document analysis firstly to gain an initial understanding of research pooling and then, since documents are social products for collective production and consumption (Prior, 2003), as the research progressed I read and re-read the documentary material in the light of the interview data and it helped me better understand aspects of both the interview data and the documentary material itself. The key source of official documents was the Scottish Funding Council agendas, minutes, papers and official communications. Other documents of interest included letters of Ministerial guidance issued by the Scottish Government, and general reports and papers relating to higher education research in Scotland, the UK and Europe. Where relevant, presentations given by key individuals on the subject were also used as a data source.

In general, the formal minutes and papers were helpful and provided useful information about what decisions were taken and when, however, they provided little assistance in understanding *how* different interests were reconciled, decisions reached and strategies agreed. It was the desire to understand the '*how*' that led to interviews as the main data source.

Pilot Interviews

Two pilot interviews were carried out at the start of the research process and were useful in the following ways. Firstly, they allowed me to test views and assumptions that were beginning to form based on my initial document analysis and my own professional knowledge and experience of pooling. Some of these assumptions found support, however, I learned that assumptions made at the very early stages of inquiry

had to be treated with caution lest they direct or constrain ways of thinking about the 'case' or filter out data that did not appear to support those assumptions. Secondly, the pilot interviews enabled me to determine through experience that I required interviews to be recorded in order to produce sufficiently rich data, and data that I could reflect on many times as the research progressed. The pilots also provided valuable experience of interviewing 'elite' participants and experience of my own position as, in some senses, an 'insider' researcher, and I carried this experience forward into the sixteen interviews that formed the main part of the study.

Data Analysis

I approached the process of data analysis as one of craft (Mills, 1959:195; Mintzberg, 1987), involving: *'working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others'* (Bogdan and Biklen, 1982:145). I chose to work with verbatim text rather than summarising or restating. This conveys a more immediate sense of the people involved, thought processes, involvement, and how they chose to tell the narrative of pooling and their role.

Process of Analysis

I began by identifying the themes emerging from the data. This proved to be a difficult and time consuming process given the seamless nature of the data. It was frequently the case that individual sentences or short passages contained multiple conceptual categories.

This involved a physical process of reading transcripts, using different coloured highlighters to signify passages relating to major themes, for example, in relation to the interests of the individual and group, or to the perceptions of the policy's relationship to Scotland. Other factors, words and phrases were coded on the margin, for example, reference to an opportunity or threat, flexibility and whether top-down

or bottom-up, factors that would suggest the possibility of other themes such as the relationship of the policy to the environment, innovative structures and how individuals and groups might be drawn into the process. The coding process was one of identification and grouping of similar ideas, descriptions and activities in order to build understanding.

The next stage involved extracting data '*chunks*' that related to particular themes from the data generated by the sixteen interviews. These data chunks were aggregated and organised according to ideas, and these themes and these data sets were anonymised but coded in such a way that I could relate them back to the original interviewee. A third stage involved identifying data sets, phrases and sentences that seemed to make the point more precisely or more succinctly than other similar data sets. These were frequently selected as representative of a larger data set or point of view and were quoted verbatim to provide the 'voice' of those involved in the policy process. The overall process was one of '*pulling the data apart and putting them back together in more meaningful ways*' (Creswell, 2007:163).

The Author's Location as an 'Insider' Researcher

Following Creswell's view that '*no longer is it acceptable to be the omniscient, distanced qualitative writer*' (Creswell, 2007:178) it is necessary that my influences, stances and location as, in some senses, an 'insider' researcher are made clear. My career began in marketing in the private sector with multinational organisations in the manufacturing, retailing, professional services and consultancy industries, before moving to the public sector and higher education administration. I have experience in marketing and communications in higher education at director level and as a member of university senior management teams. In these roles I have worked closely with academic colleagues and senior officers of the university, providing professional advice and support on communications, marketing and reputational issues, and participating in strategic and policy decisions. Therefore, my relationship to the higher education community could be characterised as that of an 'insider' researcher. This describes the situation in which '*researchers are researching organisations,*

situations and groups of which they themselves are a part' (Hannabuss, 2000:99) and distinguishes it from the position of an 'outsider' researcher who lacks such memberships and associations. As a consequence of my work role at a university involved in the development of research pooling I could be considered an 'insider' in some senses and instances, however as Hockey observes: *'this insider/outsider (or auto-ethnography/ethnography) dimension is best seen as a continuum rather than a rigid dichotomy'* (Hockey, 1993:201). Merton argues that researchers, as all individuals, have a *'status set'* (Merton, 1972:22) that is likely to vary according to different situations, to the extent that *'in structural terms, we are all, of course, both Insiders and Outsiders, members of some groups and, sometimes derivatively, not of others...'* (Merton, 1972:22) and, indeed, I found that my 'insiderness / outsiderness' was not a settled state, and varied according to the particular context.

There was one aspect of 'insiderness' that I did find helpful, however, and that was that I had an insider researcher's detailed knowledge and intuitive understanding of the context, the situation, language, relationships and practices such that:

The researcher knows his/her environment well, knows by instinct what can be done... just when and where to meet up for interviews, what the power structures and the moral mazes and subtexts of the company are... They are familiar with the organisational culture, the routines and the scripts... (Hannabuss, 2000:103) and therefore 'understand what counts in these settings' (Duke, 2002:45).

This understanding of the culture, issues, language, nuances, references and people, helped establish credibility and a measure of parity and facilitated the generation of rich data in interviews. Occupying a position as an insider however can also be problematic and contain risks. There is the possibility that being acquainted with the situation, issue or people could lead to missing something important because the researcher is too close. For this reason:

The main problem once access is gained by the insider researcher is, simply put, to make the familiar strange; to maintain enough distance so as to ensure that the analytical half of the insider/outsider coin operates effectively (Hockey, 1993:208, emphasis in original).

I found this to be applicable both in terms of my own approach to the research where I needed to be attentive to the risks of coming to see things in the interviewee's terms. However, it was also applicable to helping make the 'familiar, unfamiliar' for the interviewees who had lived the experience of developing the policy and had thought deeply about it but not necessarily from a sociological perspective.

Thesis Structure

In Chapter Two I focus on important ideas in understanding the changing policy context of the university including globalisation and the pressure for change in higher education and in university research; the impact of the global knowledge economy; Scotland's cultural and political context within the knowledge economy; academic culture and values in the context of 'modernisation' of the public sector; and finally I examine research pooling in its policy context, focusing on the interaction of traveling and embedded policy, and the post-devolution higher education policy environment in Scotland. In this way I seek to make apparent that I worked through the literature to provide myself with key concepts to explore in the interviews. The process therefore involved moving from problem to literature and then to concepts that would inform my empirical study and the analysis of the data. In Chapter Three I set out my research methodology and methods, identifying policy networks as a key theoretical resource and setting out my approach to the understanding of evidence, before introducing my interpretive methodology and providing an account of the specific research methods employed. Chapter Four presents my findings accompanied by a discussion of these, firstly in terms of contextual issues including the cultural, political and historical influence of Scotland, and secondly in terms of issues relating to the 'steering' of higher education, including how a 'conservative' policy community was able to produce radical change that was not resisted. This Chapter draws on data generated through interview and document analysis, and uses verbatim text to provide '*thick description*' (Denzin, 1989:83) and is also set within a wider analysis and orientation as suggested by Bryman (1988:74). The thesis concludes with Chapter Five which

contains my conclusions. These are grouped according to what they say about the pooling policy process in relation to change under 'managerialism'; how the policy network operated and the implications of these empirical data for policy network theory; how pooling forms part of new governance structures and approaches in Scotland; understanding the development of pooling within the post-devolution political and cultural context of Scotland and how it contributes to the 'idea' of Scotland; what can be understood by locating pooling as an example of the complex interrelationship of travelling and embedded policy; and, lastly, I draw some tentative conclusions on the future of pooling in Scotland. This Chapter, and the main part of the thesis, is brought to a close with a discussion of the limitations of the work and ideas for future research.

Chapter Two

The Changing Policy Context of the University

Section 1: Globalisation and the Pressure for Change in HE

Introduction

In seeking to explain research pooling policy, an understanding of the broader themes of higher education policy development is required. Thus, it is useful to set the policy within a more general framework of enquiry that takes account of global contextual factors that affect higher education, at the same time recognising the importance of 'local' context (Ozga, 2005e:117). It is important to take account of globalisation and supra-national policy discourse in framing policy developments at the national and local levels since, as Dill observed:

It is becoming increasingly clear that the evolution of a global economy and of related adjustments in government policy toward higher education in countries throughout the world are driving the need for changes in the traditional modes of university organization and management (Dill, 2001:21).

In this section, therefore, I discuss globalisation in relation to higher education and research as a way of setting the context for the new interest of governments and supra-national agencies in knowledge production as a result of the growing importance of knowledge societies and knowledge economies. I argue that, among globalisation's effects, it acts to change the global policy framework for higher education, opening up new policy 'spaces' including, for example, the European Union (EU), in which individual actors, institutions and systems operate (Lawn and Lingard, 2002). Globalisation is also argued to create pressure for change in higher education and in the management of research and, consequently, research pooling should be located in the context of responses to the pressures of globalisation.

For Becher and Trowler, globalisation affects higher education by creating global networks that enable information and resources to be exchanged in ways that

minimise the influence of the nation-state and affect national systems and practices (Becher and Trowler, 2001:2). These networks act to connect the global and the local, providing a mechanism for international trends to create pressures on higher education resulting in, for example, constraints on state funding, a growing emphasis on science and technology within higher education, closer links between governments and industry in relation to research, discourses of managerialism, and reorganisation of higher education (Slaughter and Leslie, 1997:36-7). Consequently, the argument is made that *'the structure of academic work is changing in response to the emergence of global markets'* (Slaughter and Leslie, 1997:209).

Globalisation is presented as acting on the nation state by creating pressure to compete globally in the knowledge economy. It is argued that this leads to an emergent set of policy approaches at the supra-national level that influence higher education policy-makers in their reshaping of education systems, and therefore *'it is the reconfiguration of global capital that requires the redesign of education policy and provision'* (Ozga, 2000:58). At the level of institutions, Scott suggests that *'not all universities are (particularly) international, but all are subject to the same processes of globalisation'* (Scott, 1998:122). Marginson and van der Wende observe that *'higher education systems, policies and institutions are being transformed by globalisation'* (Marginson and van der Wende, 2007:5), and other writers have described higher education as having to adjust to a new global environment in which rapid change, uncertainty and increased competitiveness are key features (Cameron and Tschirhart, 1992:87). For Becher and Trowler, the globalised, post-industrial world presents higher education with common challenges through the shift from elite to mass systems, changes in the relationship between the state and higher education, and marketisation, managerialism and disciplinary growth (Becher and Trowler, 2001:2). Globalisation is presented as having a direct effect on nations and higher education institutions, producing homogeneous policies in national systems irrespective of contextual issues such as politics, institutions, networks, traditions, culture and identity (Angus, 2004). Examples are cited in the literature of global pressures on higher education systems, including neo-liberal policies that encourage institutions to be more efficient, accountable and less reliant on state funding

(Marginson and Rhoades, 2002:284). These policies include constraints on state funding while requiring expansion, new structures of governance including steering, increased attempts at quality assurance, initiatives to increase accountability and transparency, the introduction of New Public Management (NPM) and new managerialist techniques. These contribute to an overall modernisation project that links higher education more closely and explicitly to the needs of the economy and of society more generally. The outcomes of these processes have been variously described as 'academic capitalism' (Slaughter and Leslie, 1997) the 'entrepreneurial university' (Clark, 1998) and the 'higher education industry' (Gumport, 2000). For Slaughter and Leslie, globalisation brings about political and economic changes and *'these changes are putting pressure on national higher education policy makers to change the way tertiary education does business'* (Slaughter and Leslie, 1997:31). These concepts are held to suggest not only that change must happen but also that *'higher education institutions face common problems which can be addressed using similar strategies'* (Deem, 2001:18).

Dale (1999:2), however, observes that states are not powerless when confronted with global challenges, although they may have lost some of their capacity to make policy independently. As he suggests, globalisation *'does create broadly similar patterns of challenge for states that shape their possible policy responses in similar ways'*; however *'globalization cannot be reduced to the identical imposition of the same policy for all countries'* (Dale, 1999:2). Existing national structures, practices and beliefs mediate the policy impacts of globalisation as it interacts with the social and cultural setting. From this perspective globalisation is, therefore, neither homogeneous as a process nor in terms of its effects. Moreover, Urry, in rejecting a simplistic, modernist, account of globalisation creating *'economic, political and cultural homogenisation'*, stresses the importance of understanding the complexities of global-local interactions (Urry, 1998:7). Douglass suggests that *'all globalization is local'* and therefore subject to national and local influences (Douglass, 2005:2) and other writers criticise 'strong' versions of globalisation, that emphasise homogenisation, as presenting an over-deterministic account that fails to recognise the influence of local context, politics and agency (Angus, 2004:24).

How Globalisation Acts on the Policy Framework

Globalisation has served to open up new policy spaces at the supra-national level for nations and their higher education institutions. Alexiadou and Jones (2001) draw attention to the way in which the supra and transnational policy agenda of, for example, the World Bank and the Organisation for Economic Co-operation and Development (OECD) have come to act as a reference point for national policy. The EU has developed a position of particular importance for this study in relation to higher education and research policy. By opening up economies and borders to the movement of ideas, people, trade and capital, globalisation is acknowledged to present opportunities, however at the same time the EU has been conscious of the need to organise to *respond* to globalisation since '*it remains one of the greatest challenges facing the European Union today*' (Europa website, 2009). The EU and its member states have acted to address the challenges of globalisation through a number of strategies affecting higher education and research including the Bologna Process, with its emphasis on increasing '*the international competitiveness of the European system of higher education*' (Confederation of EU Rectors, 2000:4); the Lisbon Strategy, to stimulate productivity and economic growth and make Europe '*the most competitive and dynamic knowledge-based economy in the world*' (European Council, 2000:paragraph 5); and the creation of the European Higher Education Area, the European Research Area and the European Research Council. These initiatives have changed the policy framework for nations including Scotland. There now exist supra and transnational policy spaces in the form of agreements, forums, networks and discourses that serve to lessen the influence that the Westminster parliament may have on Scotland's higher education and research policy, and at the same time create a framework for a more '*dynamic interaction*' between the supranational, national and local levels (Papadakis and Tsakanika, 2006:291). The challenges of globalisation can, therefore, be seen to have stimulated the EU and its member states to cooperate to create new structures and policy spaces in which member states debate and formulate policies to co-ordinate, combine and converge on a pan-European basis, and this has resulted in new perspectives, reference points and policy frameworks. Research pooling provides an example of

the impact of this enlarged policy space. When the SFC first considered the implications of the English White Paper on The Future of Higher Education, it expressed concern that research concentration '*moved England away from the European HE model*' (SHEFC, HE/2003/MIN4, 2003). In this way, the SFC referenced an enlarged policy space to locate its critique in a pan-European context and avoid being constrained within a UK-centric perspective.

Marginson and van der Wende (2007:17) argue that the influence on nations and institutions of '*their inherited geographies, histories, economies, politics and cultures, including their education and research systems*' remains significant, and that strategy, or 'position-taking' (Bourdieu, 1993) to an extent corresponds to, and is influenced by, these circumstances. Thus, the range of options available to nations and their higher education systems when responding to global pressures is shaped by local context and agency. This is argued not to be deterministic, but to suggest that for nations and institutions '*there is much scope for imaginative strategy and for capacity building that will open up future strategic options*' (Marginson and van der Wende, 2007:16). This possibility of creative outcomes being generated in the tension between global pressures on higher education systems and local context, is relevant when seeking to understand research pooling policy.

Globalisation and Pressure for Change in University Research

Exploration of research pooling policy raises the issue of how to understand the interaction of a global move by nations to harness higher education and research to the needs of the economy, with local policy development and implementation. It is within this larger global phenomenon that this study of research pooling is set in order to broaden the framework of enquiry and take account of exogenous, macro-social change. Here, we turn to the importance that is attached to knowledge in globalisation. Globalisation accords a particular importance to knowledge. While the growth in knowledge societies has had social and cultural effects (Stehr, 1994), knowledge has also emerged as a key resource that drives profitability and, to the extent that globalisation reflects the needs of a post-Fordist society and the interests

of capitalism expressed through neo-liberal policies, it seeks to harness knowledge for economic advantage (Brown and Lauder, 1996). Globalisation creates pressures on nations, including Scotland and supranational blocs such as the EU, to compete on the basis of high added value knowledge. The EU considers that it '*is confronted with a quantum shift resulting from globalisation...*' and has responded by setting the goal of becoming '*the most competitive and dynamic knowledge economy in the world*' (European Council, 2000:paragraphs 1 and 5). The Scottish Government has similarly responded by establishing its objective as being '*to create a knowledge-driven economy which can meet the challenges of a highly competitive global environment*' (Scottish Executive, 2000:v). Global pressures on nations, therefore, increase the likelihood that they approach knowledge as an economic resource to be produced in the form of an increasingly highly educated workforce (human capital) and enhanced knowledge production (research outputs and intellectual property) and that they also require it to be more closely linked to innovation and commercialisation systems, since these areas are now regarded as essential to the competitive advantage of nations (Slaughter and Leslie, 1997). This leads to pressures and policies within the nation to restructure and redirect the higher education system (Scott, 1997; Mohrman *et al.*, 2008). Consequently, the effect of globalisation on higher education institutions has provided them with a new status and identity as central to the nation's competitive position and this is accompanied by increased political recognition of the need for investment in universities and research. However, globalisation also leads to policy agendas that modernise the structure and operations of institutions, transform and rework professional and public sector ideologies (Clarke and Newman, 1997) and tie universities more closely to the needs of the economy. One outcome of this is a changing relationship between government and individual institutions, and between the constituent parts of the university themselves. It has been observed that along with their new importance in the knowledge economy higher education institutions are also subject to central policy and funding strictures and tight accountability while at the same time being encouraged to develop their own priorities and strategies to operate in an increasingly competitive quasi-market (Henry *et al.*, 1999:89). By encouraging institutions to re-orient their activities and prioritise the needs of the economy there

is concern that decision making about, and within, higher education is now overly influenced by the perceived use-value of academic subjects (Gumport, 2000), and that consequently the growth of knowledge societies and economies has come to present a challenge to academic autonomy.

In relation to university research, there are global policy pressures on nations to be competitive internationally in the knowledge economy and knowledge society by developing and sustaining leading-edge university research for reputational benefits, and to underpin economic and social development (Brown *et al.*, 1997). Research generates new knowledge that is the foundation for innovation, and governments seek to gain competitive advantage by ensuring that it is available for use and commercial exploitation. Governments regard high quality research as crucial for success in the global competition for capital, and promote the view that this new competitive environment requires changes in the way universities organise themselves in order to meet new challenges. For university research, this has resulted in increased political support, particularly for science and technology research that has potential applications, and pressure to increase links with industry in order to develop mechanisms for commercialising research (Henkel, 2007). In this way, research and the production of new knowledge becomes interlinked with economic policy, and reinforces the view that what is most important is that which contributes to improved economic performance. University research, therefore, has attracted increasing attention as its role in relation to economic performance in the new knowledge economy has come to be understood and prioritised. This is not unexpected since as Graham observes:

History shows that the state will interest itself in anything that is of social and cultural importance. If universities are institutions of consequence, they must expect government interference... (Graham, 2008:19).

The UK government has created more steering pressure on research. The introduction of the idea of 'strategic research' has strengthened the need for research and linked government support to research intended to meet collectively agreed

social and economic priorities (Henkel, 2004). The mechanism developed for identifying strategic research priorities in the UK was the '*Foresight Programme*' (foresight.gov.uk, 2009) and it has focused on the production of exploitable research. In this, it regards networks of researchers as an important strategy for stimulating creativity, and the interest of policy-makers generally in research networks has encouraged development of '*flexible structures with permeable boundaries, the membership of which may have some fluidity and cross a number of divides...*' (Henkel, 2004:172). This has led to the development of extensive international research networks, particularly within the EU where research is regarded as fundamental to competitiveness.

The introduction of the Research Assessment Exercises (RAE) by the UK government can also be seen as a form of research steering, being:

A mechanism for the allocation of research resources, a move from an undifferentiated formula-funding model to selective distribution... it fits neatly into the new public management mode of governance (Tapper, 2007:189)

The RAE is, therefore, argued to have had a significant impact on institutions, academic researchers, and the relationship between them. The RAE highlighted the changing roles and relationships within the institution. Institutional leaders, in the ideal model of university management, had been held to be responsible for protecting academics from an intrusive state (Ashby, 1967b). The introduction of the RAE, however, showed that government funding and policy could be used as a steering mechanism with the support of institutional leaders both to move the sector in a particular direction, towards funding based on peer review, and to have the sector manage the sensitive process of resource allocation. The RAE has very significant financial and reputational implications that require consideration and management at the institutional level. For academics, the RAE raises the profile and reinforces the value of research, however, where once research was a private activity of academics, it now became a managed process conditional on providing a flow of published outputs that are subject to evaluation. The categorisation of academics as 'research-

active' and 'research non-active' challenges traditional conceptions of academic identity and has serious implications within the academy given that research is closely tied to academic identity (Henkel, 2005:164).

Within institutions, Ball (2007) observes that research is fundamental to universities and in the UK, following the Humboldtian model in which research and teaching are interrelated, it is an embedded and highly developed core activity. Research benefits the university in many ways, enabling it to accumulate what Bourdieu (1993) described as 'scientific capital' typified by publications, social capital in the form of reputation, networks and links, and material capital including, for example, increased research funding.

Account should also be taken of the role of the 'local' in mediating policy pressures to link university research to the economy, particularly in the UK context where Scotland, England and Wales have distinct but interlinked education systems with devolved responsibility, and Scotland has a separate Parliament and a distinctive political context (Raffe *et al.*, 1999). A degree of global policy convergence in the direction of modernisation of institutions and research operations has been noted in the literature however, in relation to competitiveness and the discourse of the market, there is evidence that these policies have been interpreted and enacted differently in England and Scotland (Ozga, 2005:2).

In summary, globalisation creates pressure for change in higher education and research via changed economic conditions, supra-national policy and its influence on the discourse of the knowledge economy. This is experienced by higher education in the form of pressure towards neo-liberal influenced policies including tight constraints on public funding of HE and more private funding, marketisation and commodification of knowledge, the introduction of NPM and new managerialism techniques, pressure to align higher education and research with the needs of the economy, and to develop and sustain internationally competitive research that underpins innovation and economic productivity and supports the international competitiveness of the nation in the global knowledge economy. Universities have

been subjected to increased research steering practices of government and, under the modernisation agenda for the public sector, to changes in governance and leadership of institutions, and new management practices including research management, and this presents challenges to institutional and academic autonomy. Research pooling can be set in the context of a response to global pressures for nations to compete in the knowledge economy and the consequent prioritisation of university research as a key resource underpinning economic productivity. The following sections will explore the impact of the development of knowledge societies and economies, and Scotland's response to these developments.

Section 2: Knowledge Economies and the Need to be Competitive

Introduction

The emergence of the knowledge economy has created the conditions in which governments and supra-national agencies seek to steer universities more firmly. This involves change in institutions that have been relatively autonomous, and that process of steering is linked to the emergence of competitive 'blocs' including, for example, the ERA (European Commission, 2000b). This creates dilemmas for the higher education community and the state: knowledge production may not be encouraged by over-regulation; the balance between control and autonomy is difficult, and there are problems of academic morale as a consequence over-regulation. This suggests that governments seeking greater knowledge economy – university links need to take account of contextual assumptions and characteristics, and find ways of steering that are compatible with context. The question, therefore, arises of whether this is what happened in the case of pooling in Scotland. The rest of this thesis explores the pressures on universities to be productive, and the nature of steering through the example of Scotland and research pooling. It examines the knowledge economy, managerialism, and the nature of the context and then proceeds to explore, through investigation of research pooling, what influence this has on this policy development.

It is common to draw a distinction between the industrial economy of the twentieth century and a contemporary post-industrial economy characterised as a knowledge economy or knowledge society. The post-industrial society has been described in many different ways including as an information society (Machlup, 1962) and a network society (Castells, 1996), however, the terms that have found political and policy-making support are 'knowledge economy' and the related concept of 'knowledge society'. The recognition of the importance of knowledge to economic performance is not new, however, and can be traced back at least to Schumpeter's description of the importance of new combinations of knowledge to the innovation process (Schumpeter, 1911). By the second half of the twentieth century it was

becoming obvious that the sustained growth rates of Western economies were attributable to more than labour and capital in the traditional form of an industrial economy (Cooke and Leydesdorff, 2006). Attempts to explain the new processes at work included an analysis of knowledge production and distribution in the United States (Machlup, 1962), illustrating its importance to the economy and suggesting that it was likely to become more important over time. Since then, the factors associated with the knowledge economy have continued to grow in importance and this has had a significant effect on universities and scientific research. Some of the implications are explored in the following section.

Definitions and Discussion

The World Bank recognises knowledge as one of the main drivers of growth in the global economy and suggests that the term 'knowledge economy' focuses attention on the increased importance of knowledge. It defines a knowledge economy as '*one where organizations and people acquire, create, disseminate, and use knowledge more effectively for greater economic and social development*' (World Bank, 2008: <http://go.worldbank.org/94MMDLIVF0>). OECD also recognises that its members' economies are increasingly knowledge-based, and that knowledge is now the major source of productivity and economic growth. OECD prefers the term 'knowledge-based economy' because its broader systems perspective embraces technological and communications factors (Cooke and Leydesdorff, 2006) and it defines knowledge-based economies as '*economies which are directly based on the production, distribution and use of knowledge and information*' (OECD, 1996:7). The Economic and Social Science Research Council (ESRC) defines a knowledge economy in the following terms:

Economic success is increasingly based upon the effective utilisation of intangible assets such as knowledge, skills and innovative potential as the key resources for competitive advantage. The term 'knowledge economy' is used to describe this emerging economic structure and represents the marked departure in the economics of the 'information age' from those of the twentieth century industrial era (ESRC website, 2008).

Whereas the 'knowledge economy' of the OECD and World Bank has a clear economic focus, there are other aspects of society affected by the move from an industrial to a post-industrial economy. To account for this, the term 'knowledge society' (Stehr, 1994) has been proposed as a way of describing broader social factors, and bodies such as Unesco, the United Nations Economic, Scientific and Cultural Organization (2005), present the case that the idea of a knowledge society encompasses social, ethical and political dimensions.

Critiques of the concept of a knowledge economy relate to whether what is happening is significantly different from what has happened in the past; whether it has any tangible impact (May, 2002), and whether the concept offers analytical insight into the events of the present. The term has been criticised for lacking specifics and for its use in marshalling public support by politicians (Ozga and Jones, 2006), or simply for being an 'umbrella concept' enabling science and technology data and issues to be grouped around an idea that captures the attention of policy-makers (Godin, 2006:17). It is at the centre of a policy discourse that advocates major change in '*national, institutional and individual practices and processes*' yet it is presented as self-evident with little requirement to be defended or explained, but instead exists as '*a policy meta-narrative that assumes the commodification of knowledge in a system of global production, distribution and exchange*' (Ozga and Jones, 2006:6).

Viewing higher education through the lens of the knowledge economy positions universities more centrally in policy terms and brings investment, however it risks reducing higher education and research to a '*capital investment in the production of knowledge*', as machines were regarded in industrial economies (Simons *et al.*, 2007:397). This form of economic reductionism, where knowledge is seen principally as part of the economic process, has been noted (Bullen *et al.*, 2004) and is of concern where there is no corresponding policy recognition of the social and cultural dimensions and contributions of knowledge. In such circumstances the knowledge that 'matters' is that which has an economic value, leading to

prioritisation of scientific research with a view to future applications and commercialisation (Kenway *et al.*, 2004).

The underlying assumptions of the knowledge economy, therefore, have a steering effect on universities and their research. Their restricted, economic, view leads to prioritisation of some types of research over others and influences governance, management and accountability. In concept and practice, the knowledge economy alters the relationship that individuals, institutions and the state have to knowledge, and risks losing a holistic view of the contribution of knowledge and '*its capacity to create meaning and value beyond the marketplace*' (Ozga and Jones, 2006:7). With these critiques in mind, it can be observed that there is evidence from national economic indicators that the source of economic growth and high value-adding activities is becoming increasingly dependent on knowledge, and the changes in the structures of the modern economy as a result of the shift towards knowledge as a productive asset provide some justification for applying the term knowledge economy to advanced modern society. (Stehr, 2002:3).

Growth of Knowledge Economies and the Need for Research Investment

The UK, even allowing for the recent economic recession, is the fifth largest economy in the world, with Gross Domestic Product (GDP) approaching \$2.2 trillion in 2008 (OECD Principal Economic Indicators, 2009:193). The strongest performing sector of the economy has been services and, within that, knowledge-based industries account for 41% of Gross Value Added (GVA) and 43% of all employment in 2006, leading to the observation that the UK is now one of the world's most knowledge-intensive economies (ESRC website, 2009). The expectations are that the advanced economies of the West will, in the foreseeable future, generate more than half their GDP and employment from knowledge-based industries (Brinkley, 2006:6). Looking at the importance and growth of the knowledge economy in a different way, the contribution of knowledge-based services to UK exports has increased significantly in recent years. In 1995 they accounted for 54% of UK services exports and by 2005 this had risen to 68%. This reflected a rate of growth in knowledge-based services of

177% and greatly exceeded the growth of non-knowledge services at 52% (Office for National Statistics, 2006:42). Within this, the export of higher education services made a significant contribution of £3.6 billion (2004) and accounted for 1.2% of total employment (ESRC website, 2008). In Europe in 2005 over 40% of jobs were in knowledge-based industries, and between 1995 and 2005 the majority of the new jobs created resulted from the growth in knowledge-based industries, an increase of 13.3 million jobs, or 24%, considerably more than the increase in the rest of the EU15 economy of 5.3 million jobs or 6% (Brinkley and Lee, 2006:7). Therefore, knowledge has '*become the key resource in the global economy*' (Nowotny *et al.*, 2003:188) and economic prosperity is substantially dependent on the competitive performance of the knowledge economy.

Nevertheless, despite growth in the knowledge-based industries in Europe, the OECD's composite measure of knowledge investment indicates that most European countries did not increase their investment in knowledge industries between 1994 and 2002, whereas the United States increased its investment from 5.4% of GDP to 6.6% and widened the gap between the US and Europe. One of the key elements of knowledge investment is expenditure on research and development and it was this area of the knowledge economy that was the subject of the Lisbon target to raise R&D investment to from 1.9% to 3% of GDP by 2010. Progress towards this goal has proved difficult:

As national economic performance has been poor, it has been more difficult to implement the Lisbon strategy. It has been harder in this low growth environment for some governments to keep their commitments. It must be said, however, on top of that many Member States have not taken the execution and delivery of the agreed measures seriously enough... much needs to be done in order to prevent Lisbon from becoming a synonym for missed objectives and failed promises (European Commission, 2004:10)

R&D expenditure in the EU as a percentage of GDP has remained static, lagging behind expenditure and rate of growth of expenditure in the US (Brinkley and Lee, 2006), and with perhaps 40% of productivity growth dependent on R&D investment (European Commission, 2004) there is considerable pressure on the EU to make

rapid progress towards its 3% target, since that is likely to be one of the key determinants of whether the EU can fulfil its ambition to become the leading knowledge economy in the world.

The '*Discourse*' of the Knowledge Economy and the Belief in Competition

The idea of the knowledge economy is given substance and impetus by the political, institutional and financial support it receives from supra-national organisations including the OECD, World Bank and EU. I use the term '*discourse*' in its non-technical sense to convey the sense of terms used recurrently to generate shared meaning around, in this case, the knowledge economy and an accompanying set of neo-liberal market principles. The organisations identified above circulate the discourse of the knowledge economy in member (and other) countries, and within the in-country networks of institutions, organisations and government departments. They do so through, for example, the World Bank's '*Knowledge for Development*' programme (K4D) designed to '*stimulate social and economic development in client countries by building their capacity to access and use knowledge as a basis for enhancing competitiveness and increasing welfare*' (World Bank website, 2008).

The OECD has been identified as one of the main promoters of the concept of the knowledge-based economy (Godin, 2006). It has been instrumental in giving substance to the concept through its national statistical measures and indicators of the contribution of knowledge to economic performance. These policy '*technologies*' translate the discourse into a form of governance (Grek, 2009). However, with the understanding these indicators bring to the importance of knowledge in a post-industrial economy, the OECD is in a powerful position to influence policy-makers, and it does so through its publications, conferences, symposia and ministerial and high level meetings. The EU regards investment in research and development as underpinning growth in the knowledge economy, and university research as an important component of R&D, consequently, it has significantly increased its investment in university research through instruments such as the ERA and the ERC (European Commission, 2007a). The political and financial resources of the EU

therefore constitute a powerful steering mechanism on the discourse within member states. In the UK, the requirements of the knowledge economy inform government thinking on higher education. For example, the White Paper on the Future of Higher Education (2003) recognises the importance of research to the knowledge economy and in the Foreword the Secretary of State for Education and Skills states '*we have to make better progress in harnessing knowledge to wealth creation*' (DfES, 2003:2).

In Scotland, the Scottish Government set one of its principal objectives in terms of the discourse of the knowledge economy: '*our aim is to create a knowledge-driven economy which can meet the challenges of a highly competitive global environment*' (Scottish Executive, 2000:v). The Scottish Government's Framework for Economic Development was developed to address the needs of economic development in the new global economy in which '*the capacity to learn and apply knowledge are critical to success*' (Scottish Executive, 2000:v). The representative body of Scotland's universities, Universities Scotland (US) observed:

We have reached a consensus in Scotland; we have to build our economy on knowledge because we cannot compete on low wages... that knowledge, ideas, innovation, understanding, adaptability and creativity are the foundations on which this economy will be built has been accepted... this has put higher education at the heart of economic development policy (Universities Scotland, 2002:1).

The discourse of the knowledge economy therefore pervades all levels of higher education policy-making, including supra-national, national and institutional. Within this, we can see that the idea of 'competition' is prioritised in the discourse of the knowledge economy. The environment is frequently described as highly competitive, targets are set in terms of performing better than the competition, whether another bloc or country, and the measures of performance involve comparisons with others and invite competitive responses in the form of strategies to catch-up or overtake. This belief in the need to not simply develop or improve, but compete with others to be recognised as leading-edge, can be seen to drive investment in research and higher education. Here, in relation to the knowledge economy and to research pooling developments, the concept of 'constructed advantage' offers insight into the

processes at work. Whereas 'comparative advantage' suggests competition based on patterns of resources available to a nation or region and tends therefore towards stability and a *laissez-faire* approach; and 'competitive advantage' emphasises product development and marketing, and tends to concentrate on the inter-firm performance of companies; the systems approach of constructed advantage directs attention to how a region or nation can bring many different resources together including government, industry and universities to create a more favourable position (Cooke and Leydesdorff, 2006). The contribution of constructed advantage is that it provides a way of understanding competition between nations and regions based on interrelationships between major sectors of the economy and society. Research pooling can be set in the context of a national and regional strategy to develop the capacity of the knowledge-producing sector in line with government ideas of what is required for the knowledge economy, and in line with efforts to stimulate industrial innovation and commercialisation of research.

New Focus on Education, Knowledge Production and Research Steering

The basis of competitive advantage, or constructed advantage, has shifted, and nations now compete with each other with reference to knowledge and are dependent on linkages between research, innovation and commercialisation. The concept of a knowledge economy discursively re-positions science and technology (Godin, 2006:24) and directs attention to how to maximise the contribution of education and research assets. In this way, higher education and research are prioritised (European Commission, 2002), and as a consequence universities have moved from the periphery of political thinking to its centre. This shift has been accompanied by increased investment in higher education and in research. This new visibility and increased public investment, however, have implications for universities and research particularly in terms of accountability, governance and management, research steering and commercialisation.

Mode 1 and Mode 2 Methods of Knowledge Production

At the same time, it is suggested that there is an apparent change in the way that knowledge is produced, involving a shift from what has been referred to as 'Mode 1' research to a 'Mode 2' model of scientific discovery (Gibbons *et al.*, 1994). The traditional approach to research, Mode 1, has been taken to involve an autonomous researcher working within the boundaries of their discipline and focusing on a research problem of interest to them and relevance to their discipline but with little thought to the value and use of the research outcomes beyond that, and disseminating the findings through academic outlets (Bleiklie, 2005:47). This typified fundamental or 'blue skies' research and researchers were free to approach research in this way because of their location and protection within autonomous universities.

In recent years, however, it is argued that there is greater interaction between researchers and society, and this influences all stages of the research process from initial recognition and choice of a scientific problem, through methodological and research approaches, to the uses and dissemination of outcomes (Nowotny, *et al.*, 2003:186). It is argued that this Mode 2 model is more permeable to society, more reflective of a range of stakeholder views and interests and more accountable to them, more oriented to eventual application of the research outputs, and more trans-disciplinary or able to draw on a wide range of theory and methodologies to produce research outcomes. The emergence of Mode 2 knowledge may be partly attributable to the growth of knowledge economies and the increased importance of research within the economy and the wider society (eg. Arnott and Ozga, 2009). For policy-makers, having established the basis of competition as the production, distribution and use of knowledge, the investment of public funds in research must be shown to be used efficiently and to provide a return. This is argued to lead to attempts to direct research funding, and hence research, to areas of concern to society and policymakers, and to 'steer' research priorities.

Research Steering

The desire of policy makers to influence, or steer, research priorities can be seen to operate at supra-national, national and in-country research system levels. Within the

EU, policy-makers have used the Framework programmes (European Commission Research Directorate-General, 2007d) to prioritise research that addresses contemporary social and economic issues. In the UK, there has been a trend towards government departments funding research programmes partly to address short-term political concerns. There have also been attempts at steering through Foresight exercises that have become more directive over time as policy-makers identify niches where investment may show returns and enhance competitiveness (Nowotny *et al.*, 2003:182). Within the UK, Research Councils have pursued the strategy of funding research that fits identified themes as they attempt to demonstrate efficiency to government and coordinate the research activities they support. Research is now important in policy terms and, as there are scarce public resources to invest exacerbated by the economic recession, choices must be made about priorities. As a consequence, policy-makers are able to require rationale and strategy, and thus steer research.

Conclusion

The concept of the knowledge economy has been explored and problematised. It is, nevertheless, recognised that it has gained the attention and support of policy-makers and is being used as a driver for change. One of the reasons for its dominance is that OECD national economic indicators show that the basis of economic competition is shifting towards knowledge. As a result economies, particularly Western economies, are looking closely at, and investing in, their knowledge assets in order to position themselves to compete in high value services and products rather than as low wage economies (Brown and Lauder, 1996). This transformation has brought visibility and investment to research and to universities but also pressure to be efficient, to produce research outputs and demonstrate a return on investment. It is because of the importance of research and the rising levels of public investment required that governments and policy-makers seek ways of reducing risk by attempting to steer research. It is possible to locate research pooling in Scotland within the frame of global research steering as governments, as suggested by former Secretary of State for Education, Charles Clarke, seek ways of '*harnessing knowledge to wealth*

creation' (DfES, 2003:2). Furthermore, the knowledge economy places universities, as knowledge producers, within a global competitive agenda and results in pressures on small systems with finite resources (intellectual and economic). In the particular context of post-devolution Scotland, universities, therefore, are presented with some difficult dilemmas.

Section 3: Scotland's Response to the Knowledge Economy

Introduction

This section develops the idea that, even in an environment of global pressures and policies, local context is important in shaping policy responses. It explores the literature on key embedded factors in the Scottish context that may contribute to mediating global pressures and influencing the development of policy, including research pooling, intended to enhance Scotland's competitive position in the international knowledge economy. These factors include cultural, social and political dimensions (Raffe and Byrne, 2005, McCrone, 2004). The argument is advanced that these factors influenced higher education policy development to produce a distinctive response to the pressures and policies of the knowledge economy and globalisation.

McCrone argues for attention to, in this case, the context of Scotland (McCrone, 2005:3). Even in a globalised world seemingly dominated by large nations, groupings of nations and global networks of relationships, it is argued that the way *'territories react to these broad social forces is very different, and the global and local are but two sides of the same coin'* (McCrone, 2001:1). It is also held to be important because, given that globalisation does not result in uniformity, then Scotland's location as a 'peripheral' nation with a UK and a European Union of larger countries at the 'core', may offer the possibility of more scope for policy innovation and experimentation (Ball, 1998:120) and this may help us to understand the development of pooling policy. Therefore, since Scotland is linked to the global economy yet at the same time expresses a distinctive national identity and culture, it also offers the potential of insight into new and emerging global, social, political and cultural relationships and *'stands at the centre of sociological concerns in this late modern world'* (McCrone, 2001:53). In the context of this thesis it is important to understand some of the influential cultural factors in Scotland and how identity, beliefs and values may act to influence policy in this context.

Definitions and Discussion

The term 'culture' I take to refer to the distinctive intellectual, emotional, spiritual and material features of a society, and which encompass (in addition to art and literature) ways of living together, value systems, traditions and beliefs (Unesco, 2002): the '*who we are and how we carry ourselves*' expressed by former First Minister of Scotland, Donald Dewar (1999). I focus on issues relating to Scotland as a nation: national identity, community, shaping myths and traditions and the impact of collective narrative and national ideology, and briefly consider how these may act to influence policy development.

The term 'nation' is a cultural concept (McCrone, 2005:3), a form of 'imagined community' (Anderson, 2006) in which people who are unlikely ever to know each other, nevertheless share an image in their minds of themselves as members of a community with finite and definable boundaries, which may or may not be physical, a sense of comradeship and the means of self-determination. In this way it is possible to think of the nation as a socially constructed community, imagined by those individuals who consider themselves part of it. For Anderson, nationalism is less to do with awakening self-consciousness than it is creating and imagining the possibilities of the national entity. Further, the Scottish nation is imagined as a community because '*regardless of the actual inequality and exploitation that may prevail in each, the nation is always conceived as a deep, horizontal comradeship*' (Anderson, 2006:7). That nearly twice as many Scots identify with other Scots in different social classes as identify with English people of the same social class as themselves, gives weight to the importance of Scotland as a community with a distinct national identity (McCrone, 2008:10). This is also reflected in research on national identity that suggests that among people living in Scotland feelings of, and identification with, 'Scottishness' have traditionally been high and have continued to increase slightly while the proportion of Scots identifying with Britishness has declined since the early 1990s (Paterson *et al.*, 2001; Brown *et al.*, 1998; Bond and Rosie, 2002; McCrone, 2007:9).

The concept of 'community' is important in understanding Scotland as a nation, indeed the sovereignty of the Crown is rooted in the idea that it acts for and on behalf of the people: the 'Community and the Realm of Scotland'. McCrone suggests that this prioritisation of community can be found as far back as the Declaration of Arbroath in 1320, in which allegiance to the monarch was conditional on that monarch advancing the will of the people (McCrone, 2001:41). Therefore, it is suggested that community has deep historical and contemporary significance in Scotland and serves as a powerful organising and legitimising concept and expression of national identity.

The '*Scottish Frame of Reference*'

Central to the Scottish nation as an imagined community is historical continuity. The nation and culture experienced in contemporary society is connected to, and derived from, that of previous generations. Scotland in this sense can be thought of not only in geographical terms, but also as '*a transcendent idea which runs through history, reinterpreting that history to fit the concerns of each present*' (McCrone, 2001:49). From this perspective, the Scottish nation is a set of symbolic meanings as much as a geographic region, and it is through symbolism that nations, and communities, are constructed and identity proclaimed (McCrone, 2001:51). However, these meanings and symbols require some connection to everyday experience if they are to persist. The idea of 'Scottishness' is possible and credible because there are sufficient cultural markers on which to draw and it fits with the social experience of most people. This highlights the significance of civil society as a carrier of national identity through a complex array of interactions, associations and institutions, for although historical connections are important they are not sufficient on their own as an expression of nationhood, and it is through the contemporary experience of civil society and its institutional practices that a distinctive Scottish nation is sustained. Consequently, what has been termed a 'Scottish frame of reference' arises from a civil society distinctive from that of England and the rest of the UK that is generated partly as a result of separate systems of education, law and religion (civil society) but also because Scots have absorbed the culture, values and beliefs that are shared

within the *'imagined community'* and regard themselves as different *'because they have been educated, governed and embedded in a Scottish way'* (McCrone, 2005:4). Given the geography of Scotland, the size and scale of Scottish civil society means that it comprises relatively dense networks of people, organisations and institutions that generate frequent daily interaction and, as a consequence, these complex associational networks *'Scotticise'* social interactions (McCrone, 2001:45) providing members of the community with a sense of belonging through shared experiences and values. While noting that Scottish culture, as other cultures, is interlinked and permeable, rather than a *'discrete, bounded system'* (Hearn, 2000:10), nevertheless a distinctive set of social and cultural norms is created that are located in a specific historical and institutional context (McCrone, 2004:8) and these act to frame the cultural, social and political practices of the community. The Scottish frame of reference, therefore, acts like a *'cultural prism'* that translates broad global pressures for social change under the conditions of the new knowledge economy into policies relevant to the context of Scotland, and creates distinctive cultural capital in the process. This *'cultural capital'* is held to be a powerful asset and one that can be drawn on either to mobilise support for change, or to maintain the status quo. Thus, I suggest that the development of higher education policy takes place in the context of Scottish culture, experience and structures, and these may provide a source of specific developments (McCrone, 2005:5) as, for example, in relation to the restoration of student grants in Scotland. Paterson observes that this did not come about because Scotland was confronted with issues specific to it, but because support in Scotland for the idea of free access to education led to grants rather than loans, and consequently Scotland *'addressed common British concerns in a distinctively Scottish way'* (Paterson, 2001:148). This distinctiveness may be important at different levels, including not only the pragmatic level of what is *'workable'*, but also in relation to cultural issues of, for example, national identity. Scottish higher education, as education generally, is linked to, and a way of, expressing Scotland's national identity, and the institutions and traditions of education have, therefore, served to distinguish Scotland's national identity within the UK (Anderson, 2003:219; Raffe, 2003). Higher education also commands cultural authority within Scotland and is regarded as essential in renewing Scottish culture, maintaining civic

institutions and contributing to economic development (Paterson, 2001:146). Cultural issues of nation, community and identity help create and sustain an environment in which there is the potential for difference and distinctiveness in formulating policy. In the following section I will explore the shaping myths, traditions and values that are important in the cultural context of Scotland and their interaction with national ideology and the collective narrative.

'Democratic Intellectualism' and the Power of Shaping Myths

Shaping myths, values and traditions are held to influence the development of Scottish higher education policy since those educated in, working in, and leading the system come to absorb its myths, traditions and values and, therefore, *'participants in the system are in different ways influenced by it'* (Raffe, 2003:5). Consequently this is reflected in policy development and may be influenced by broader cultural factors including the shaping myths and traditions of the education system (Raffe and Byrne, 2005). The power of the myth lies in it not being merely a description of education in Scotland, but *shaping* Scottish education because policy-makers are influenced by it. In this way, it is possible to acknowledge the shaping power of the Scottish myth on policy-makers and on education policy, and observe they may also be called upon to legitimise particular policy arrangements or deployed to argue for or against policy change as, for example, when used in the debate over comprehensive schools by opposing sides to both support and reject the proposals (McPherson and Raab, 1988).

Education has contributed to the development of the Scottish myth and is held to provide an example of meritocratic, and in a more limited sense, egalitarian values. Anderson notes the early extension of literacy throughout the population and the development of an advanced university system as the foundations for the development of the 'democratic' myth of Scottish education (Anderson, 2003:219). The term 'myth' is used in the sense that it refers to beliefs that are difficult to substantiate but that nevertheless have become *'self-evident truths'* within society (McCrone, 2001:90). They, therefore, form part of a *'collective narrative'* that

society relates to, and about, itself in order to '*explain the world*' and to '*celebrate identity and to express values*' (Gray *et al.*, 1983:39). In this way myths, traditions and collective narratives may affect the practical realm of policy-making by influencing the 'national ideology' and the 'assumptive worlds' of policy-makers (Ozga, 2005d) where national ideology is a term used to describe prevalent values and beliefs that provide a context for the practical thinking and action of the main institutions of a nation (van Zanten, 1997:352), and assumptive worlds denotes the mix of perceptions and beliefs that constitute policy-makers' understanding of the policy environment (McPherson and Raab, 1988:55). The Scottish myth prioritises the importance of education to the social advancement of individuals and groups. In so doing, it draws to a greater extent on a meritocratic ideal than on principles of social justice, since Scottish education was historically not available to all but, in effect, operated to access the pool of available talent and enable a small number of individuals to take advantage of the educational opportunities usually reserved for the elite: '*the "lad o' pairts" had been picked out early from his fellows and prepared carefully for university by the dominie*' (Massie, 2008:16). Nevertheless, the Scottish myth, although contested, foregrounds egalitarianism in a way that may resonate with the way the community wishes to think of itself and to have others perceive it. It also derives considerable power from referencing deeply held social values, helping to creating an ethos, and serving to celebrate sacred beliefs (McCrone, 2001:92).

The myth is expressed in the concepts of the 'democratic intellect' (Davie, 1961; 1986) and the 'lad o' pairts'. The publication of Davie's book '*The Democratic Intellect*' contributed to debates of the time about social class inequalities of access to educational opportunities in England, and served to reinforce perceptions of the '*egalitarian pedigree of the national institution that Scotland had substituted for English gentility*' (McPherson, 1983:225-6). Scotland is held to give greater priority to ability and achievement over social class as legitimate routes to educational opportunity and advancement. This has come to occupy an important position in the Scottish national identity, and is often used to differentiate Scotland from England on the basis that Scotland is more meritocratic. As Paterson observes: '*the democratic*

intellect was to be at least as much about the intellect as about the access to it' (Paterson, 2005:3).

In the nineteenth century the distinction between Scottish and English universities was highlighted by the debate over what constituted a 'liberal education'. Davie argued that Scottish universities had their own distinct intellectual tradition based on logic, philosophy and disputation rather than the emphasis on classics common in English universities (Davie, 1961). In Scotland, philosophy rather than classics was thought to be central to the educational approach, the broad thrust of which was to encourage enquiring minds and to provide the student with useful practical knowledge for their future careers. The democratic intellect principle, together with the lower costs of attending university in Scotland, helped make possible the myth of the 'lad o' pairts': the student from a disadvantaged background who by gaining access to a university education advances himself. This belief, popularised by writers in the 'Kailyard' tradition of the late nineteenth and early twentieth centuries, is more to do with the identification and promotion of talent than with egalitarianism or social justice programmes that create equality of opportunity, although there is some referencing across these ideas. Yet in the myth building process, Scottish egalitarianism has achieved an emphasis that is difficult for the evidence to support but which nevertheless enables McCrone to comment that *'few myths are more powerful in and about Scotland than that it is a more egalitarian society than England, and that it is less class-bound'* (McCrone, 2003:241).

Legitimising Belief and Action in Contemporary Society

McCrone's view is that myth has relevance and impact in contemporary society as a means of legitimising belief and action. It provides a way of celebrating values and explaining experience, although the tradition it creates is likely to be based on a selective interpretation of the past (McPherson and Raab, 1988:499). McCrone notes that the central component of the Scottish myth is the *'inherent egalitarianism of the Scots'* (McCrone, 2001:91) and this egalitarianism takes the form of a set of social values that are linked to aspects of the structure of society. The myth also presents

education as a central and defining characteristic of Scotland and, linked together, these elements mean that *'the role of the "Scottish myth" has been to translate national distinctiveness into institutional characteristics'* (McCrone, 2001:100). In this way the essence of myths is that they may be selective and not necessarily supported by the data, but are beliefs used to help understand and explain complex social reality. Almost inevitably they are selective, partial and not easily proven one way or the other. Nevertheless, the Scottish myth presents to the outside world, and to the community, a persuasive and influential account of higher education in Scotland. The Scottish myth is also linked to, and can be discussed in terms of, traditions and values. It is possible to refer to a tradition of 'democratic intellectualism' in Scotland (Paterson, 2003a) and Scottish education traditions and values include social openness; the state having a legitimate and accepted role in the provision of a public system of education; the importance of a broad curriculum; a focus on encouraging the development of the intellect (Paterson, 2000); that education is of fundamental importance to the community, and that individuals should have access to it based on merit (Scotland, 1969).

These cultural aspects of Scotland provide a context for policy-makers, but they also act directly on individuals and groups to inform and shape their assumptive worlds, and since *'what individuals value is strongly influenced by the specific culture in which they happen to live'* (Giddens, 1997:586) these cultural aspects contribute to the highly contextualised embedded policy environment with which global pressures and policies must interact. The 'myth' reinforces the idea that universities are an integral part of civil society and have a public role, and this changes the policy context.

Having explored the economic, political and cultural environment of universities, in the next section I introduce the nature and culture of academic communities, the effects of public sector 'modernisation' on academic work, and establish the context within institutions for the introduction of research pooling.

Section 4: Academic Culture in the Context of Public Sector 'Modernisation'

In this section I explore key aspects of the nature of academic work and culture including what is involved in academic work, how it is carried out and what motivates academics in such work. The intractability of academic work and arguments for it to be autonomous are explored before focusing on the main elements of the literature that document challenges to the principles of academic autonomy through competition, regulation and the culture and practices of managerialism. This section concludes with a short discussion of research pooling in relation to the tension between academic culture and managerialism.

The Nature of Academic Work

Academic work is traditionally held to involve the pursuit of knowledge and its dissemination and application through activities including research, teaching and service (Coaldrake and Stedman, 1999:13). Recently a further strand of engagement with industry, government and society, a 'third mission', has developed as a core element of academic work under such headings as knowledge transfer and commercialisation reflecting a 'triple helix' model of academic collaboration with business and government in pursuit of innovation (Etzkowitz, 1997). It is also argued that this broad range of activities forms part of the repertoire of individual academics although it should be recognised that the degree of professionalism required for effectiveness in each area makes contribution across the range difficult and fragmentation and specialisation more likely (Musselin, 2007).

The community of academics and scientists has been referred to as the '*republic of science*' and the '*republic of scholars*' (Polanyi, 1962:54; Brubacher, 1967:237). This conveys notions of self-determination and sovereignty within the bounded space occupied by the academic community. It also suggests a democratic internal organisational structure and that the best way of organising academic work is to allow academics to select and pursue problems on the basis of their own judgement.

Polanyi directs attention to academic work as a socially embedded activity and that in carrying it out academics cooperate as members of a dispersed but linked social organisation in which *'in the free cooperation of independent scientists we shall find a highly simplified model of a free society...'* (Polanyi, 1962:54). The implication of this is that scholarly activity is best organised along democratic lines and that interference in the 'republic' or the imposition of a different form of organisation on the academic community would be counter to the principles governing society itself. In relation to the most appropriate way of organising academic work Polanyi suggests that the mechanism by which academic knowledge advances is the *'coordination by mutual adjustment of independent initiatives'* (Polanyi, 1962: 54). In this way individuals, motivated by adherence to professional standards, take account of the findings of their peers and adjust their own work accordingly and therefore progress in the whole system is achieved. Scientific progress is dependent upon insight, intellectual creativity and, occasionally, chance discoveries, and consequently progress in particular areas is inherently difficult to predict. Individual experts working on a problem are those best placed to decide on how to approach it, and the coordinated action of many independent initiatives acts as 'an invisible hand' leading towards discovery. The argument of the republic of scholars approach is that a network of academics coordinated by sharing information with peers worldwide is a more efficient and effective way to advance knowledge than by organising academics under a single managerial authority since this would limit their effectiveness to that of the manager in control. This is a persuasive argument for academic autonomy since it suggests that autonomy produces a better outcome than conventional management practices, and therefore autonomy is necessary for the efficient organisation of academic progress. The process of coordination by mutual adjustment therefore provides an effective model of how to organise productive academic work and thereby presents a challenge to managerialist attempts to treat *'the production of scientific knowledge as if it were a mechanical process driven by logical clockwork'* (Ziman, 2000:21).

There is, however, a tendency for society not to allow such an important process as the advancement of knowledge to be determined by academics alone but to attempt

to harness research to the public good and to exert control over seemingly fragmented initiatives that are *'too important to leave to the professors'* (Brubacher, 1967:249). However, since science progresses by a series of individual steps that emerge spontaneously and unpredictably, the argument is made that a central authority is a less effective alternative to supporting the many individual initiatives and therefore innovation is best served by *'the initiative of original minds, choosing their own problems and carrying out their investigation, according to their own lights'* (Polanyi, 1962:66). Academic autonomy and the autonomy of institutions are separate but linked ideas and practices. It is recognised that there is a need for some form of governing authority to *'reign over this republic'* of academics and, in the ideal model, the relationship between the academic community and the institutions in which they work is presented as symbiotic. The academic community provides the institution's reason for being and the university's role is not to control and direct academic activity but to provide the academic community with a space free from *'corrupting intrusions and distractions'* in which academic work can proceed through individual decision making and shared expertise in a highly distributed network (Polanyi, 1962:67). Academic autonomy is therefore argued to be an essential value within society and necessary to enable knowledge to develop free of the potential distortions of political, religious or secular control, and Atkinson observes that *'the modern research university could not have emerged absent this commitment to academic freedom'* (Atkinson, 2004:1). It is also argued that it is necessary to enable academics to decide on and pursue their own research free from interference since that releases creativity, stimulates originality and is a more efficient and effective arrangement for producing and advancing knowledge (Henkel, 2007).

In carrying out this work it is suggested that academics behave differently from the traditional model of individuals as economic agents motivated by money -*gold*- instead they are primarily motivated by the intellectual satisfaction of solving a problem or making a discovery - the *puzzle*- and by the recognition of the value of their work by their peers in the academic community - the *ribbon*- (Merton, 1957; Lam, 2007:27). This distinctive motivation forms part of the identity of academics within a society where research *'is culturally defined as being primarily a*

disinterested search for truth and only secondarily, a means of earning a livelihood' (Merton, 1957:659). A recent study of the motivations and orientations of academics involved in university-industry partnerships found *'that the majority of the academics continued to be motivated by the ribbon and the puzzle'* (Lam, 2007:28). The tendency of academics to be motivated by reputational and career-related incentives is reinforced by a competitive career system in which promotion depends on prestige achieved amongst peers. It is also important to note that academic work is embedded in society and changes to its practice affect relationships between the profession and society and also the position of the profession within society. Increasingly, scientific research forms part of public debates about the value of research, appropriateness of methods, moral and ethical considerations. Society now expects its views on research to be taken into account and academic work is no longer regarded as separate but as an integral component of society and therefore expected to be transparent, accessible and contribute to economic and social welfare (Henkel, 2007:94).

Paterson observes that universities are inherently 'socially embedded' institutions having been created by states, cities and churches through political acts in order to achieve social objectives. These objectives have included educating society and providing the expertise and research to assist the national economy to compete globally, educating and providing access to the future governing class, and developing the culture of the nation (Paterson, 2003a). The university and the state are presented as intertwined: *'the two sides of a single coin'* in which the state *'...protects the action of the University; the University safeguards the thought of the state. And each strives to realize the idea of national culture'* (Readings, 1996:69). For Paterson, universities in Scotland, given their public and civil role, have been, and continue to be, central to the development, renewal and competitiveness of nations (Paterson, 2003).

Academic Work in the Context of the Public Sector

While acknowledging the independence of universities from the state, academic work can nevertheless be located within the context of the work of public sector professionals generally. In the UK the public sector has been the subject of a modernisation and restructuring agenda in which *'the attempt to develop new and more sophisticated forms of organizational control have been an essential underlying theme...'* (Hoggett, 1996:10). Higher education, as other professional public sector work, is based upon a high degree of trust based employment relations in which employers rely upon the expertise of professionals (Goldthorpe, 1982). Across the public sector this arrangement has been under considerable pressure from a shift from reliance on professional autonomy exercised in an administrative bureaucracy to *'performativity'* involving the introduction of cost controls and quasi-markets (Webb, 1999:753). It is argued that there has been a general erosion of the ethos of professional self-regulation that was previously carried out in a high trust, publicly funded system, and which has been substituted by a low trust system based on central financial control and the introduction of quasi-market mechanisms (Jessop, 1993). This type of control constrains autonomy and uses the economic logic of the market to establish boundaries within which it may be exercised. Organisational strategy is set at the centre in this *'core-periphery'* model and financial and output targets are used as a control mechanism for decentralised units at the *'periphery'* (Webb, 1999:757).

The UK public sector has been subjected to processes of 'modernisation' since the 1980s, challenging professional self-regulation (Henkel, 2004:172) and to declining resources resulting in a tendency towards the commodification of labour which results in job insecurity, reduced trust, motivation and commitment. Where previously there was reliance upon the professional bureaucracy to act according to a common understanding of expected standards and behaviour and in the best interests of the service, the new public sector financial imperatives of the 'bottom line' encourage the development of more interventionist management direction and control. This results in a more performative culture driven by cost and output

measures such as 'key performance indicators' and, in the field of research, seeking evidence of return on investment of public funds. Throughout the UK public sector professional autonomy has been subject to processes of centralisation of strategy formulation, authority, decision-making and performance measurement '*creating a form of evaluative state*' (Hoggett, 1996:27). Under these conditions, work that does not count towards the indicators measured becomes devalued and unrewarded (Hoggett, 1996:24). The consequence of this, which may be unintended, (Webb, 1999:755) is that work that may be important to the service and its users but is not measured or measurable may become de-prioritised, under-resourced and less effective while productivity of things that can be measured assumes a higher level of importance in the public sector. Public sector professional and managerial behaviour is shaped by the new ethos of performative and market principles. While it has been argued that this may lead to the re-professionalisation of the public services, reinvigorated and energised with entrepreneurial values (Webb, 1999: 755), Webb also draws attention to the perceived reassertion of control by professional groups that have embraced the rhetoric of entrepreneurialism and suggests that this may lead to undue emphasis on impression management and 'performing to target' rather than the provision of services valued by users (Webb, 1999). Higher education research can therefore be located in a wider context of erosion of the public service ethos and its replacement by economic rationalisation and market criteria (du Gay, 1994).

The Importance of Academic Culture, Identity and Socialisation Processes

The nature of academic work has a bearing on the culture of the academic community. Academics are socialised into that culture during their training and experience as researchers and through interaction with other members of their academic discipline or '*tribe*' (Becher and Trowler, 2001). The concept of '*habitus*' (Bourdieu, 1993) is used to convey a sense of an individual's disposition to act and refers to the socialisation of members of a group in such a way that they acquire a set of dispositions that reflect the elements of their community or society (Nash, 1999:185) and that '*inform their further interaction with their social environment*' (Deer, 2003:196). Once acquired, these dispositions and beliefs tend to be taken for

granted. They act as a guide to thought, choices and action and enable the individual to operate '*naturally*' within their community and within other 'fields' or different environments. Bourdieu argued that in each of these fields, including the academic community, social practices are based on a set of highly specific rules established within the community itself and therefore distinct from other fields (Deer, 2003:196). These social rules are acquired or absorbed through involvement in the life and work of the community rather than by reference to any particular statements and are the product of '*an accumulation of objectified practices*' (Deer, 2003:196). As MacIntyre suggests, the individual is involved in a complex interrelationship with the community and its traditions '*what I am... is in key part what I inherit... I find myself part of a history... whether I like it or not... one of the bearers of a tradition*' (MacIntyre, 1981:221).

From this perspective academic culture involves a set of unwritten principles, for example, the importance of critical scholarship and disinterested inquiry, (Scott, 1997:6) which find expression through the beliefs and behaviour of members of the community. They therefore inform the way the community conducts itself and how it presents itself to others without requiring conscious intent (Bourdieu, 1993). Consequently, the habitus is the collection of robust and lasting dispositions that are acquired. The term draws attention to the importance of individual and community history, a form of genetic code or DNA with historical roots that is expressed and transmitted through contemporary individuals and groups. Perceptions and behaviours are not isolated occurrences but '*the individual trace of an entire collective history*' (Bourdieu, 1990:91). The habitus provides the 'feel for the game' and the 'practical sense' that enables individuals to act in specific circumstances without having to stop to think the situation through systematically or to refer to rules and procedures (Bourdieu, 1993). Since individuals do not act in isolation but in specific social situations governed by particular social relations, Bourdieu developed the concept of field, or context. Thus the academic community occupies a structured space with its own rules and internal relations, '*a separate social universe having its own laws of functioning...*' (Bourdieu, 1993:162). Within this space the habitus permits the agency of individuals however it also predisposes them to certain

ways of thinking and behaving: *'the effect of the habitus is that agents who are equipped with it will behave in a certain way in certain circumstances'* (Bourdieu, 1990:77). However as the field contributes to structuring the habitus, the habitus also contributes to structuring and providing meaning for the field. Therefore as academics are socialised into the community their thoughts and actions also contribute to structuring and shaping their field (Reay, 2004:435).

Henkel draws attention to theoretical approaches that suggest identity is constructed largely within social contexts, institutions and relationships, in *'strong and stable communities and the social processes generated within them'* (Henkel, 2005:157). Membership of a community is important to individuals since it offers to provide legitimacy and stable identities within a complex and changing society (Castells, 1997). Thus to be an academic is to be located within a defined community in which individual identity is shaped by the community while at the same time the individual is able to make a distinctive contribution to that community. This *'defining community'* provides the language that enables individuals through everyday conversations with other members of the community to make sense of the world and locate themselves within it. In addition to language, the community also provides access to *'the myths through which deeply held values and beliefs of the community are expressed'* (Henkel, 2005:157). Therefore individuals come to share language, values and beliefs within the community and to carry and transmit the defining myths and traditions of the community. This is relevant to understanding what academic culture is like, why it is distinct and influential. The complexity of academic culture is observed in the influence of multiple belief systems within the university including the cultures of the institution, the academic profession overall, and the different academic disciplines (Dill, 1982:308). It has been argued that the most important communities academics identify with are firstly their membership of the global interconnected community of their academic discipline, and secondly their institution, and that academic identities are thought to be strongest where there are clear boundaries separating disciplines or groups. For Dill, it is the culture of the academic discipline that exerts the strongest influence on academics:

These systems of shared belief clearly evoke the greatest meaning, commitment, and loyalty from contemporary academics (Dill, 1982:309).

The common language and way of thinking about the world, and the defined boundaries provided by the discipline structure, are stronger influences on academic identities than belonging to a particular institution (Henkel, 2005:158). The rapid growth of higher education sectors worldwide and the increasing emphasis on discipline-based careers has resulted in academics coming to regard themselves as relatively independent of their institutions but with a strong discipline identification reinforced by the process of working to achieve publications, peer recognition, professional awards, research grants and involvement in social relations within the discipline. These processes result in an academic community that regards itself as having highly distinctive values, beliefs and practices within society that require to be safeguarded. One of these values and practices to be defended is academic autonomy, a central tenet of academic culture, and this will be explored in the following section.

The Argument for Autonomy in Academic Work

The meaning and practices of the term 'academic autonomy' vary considerably across the world (Altbach, 2003) and it is described as being '*contextually and politically defined*' (Neave, 1988:31; Tapper and Salter, 1995). As applied in the UK it refers to both individual academic freedom, where the researcher is free to pursue truth wherever it leads '*without fear [of sanction]*' (Berdahl, 1999:60), and also the right of the university itself to govern its own affairs. It involves some measure of '*internal control, authority, non-intervention, recognition and territoriality*' (Henkel, 2007:89). For Neave, it is '*the right of staff in higher education to determine the nature of their work*' (Neave, 1988:43), their own research agenda and to manage their time and priorities. It has three essential elements, freedom of research and scholarly inquiry, freedom of teaching and freedom of expression and publication (Atkinson, 2004:2). It is therefore fundamentally concerned with safeguarding the conditions necessary for thorough scholarship and teaching of merit and value. Academic autonomy is argued to be a central value of higher education and a vital

component of academic identity (Altbach, 2001:205) where it is regarded as a core value and essential to academics' working lives: '*an essential socio-technical condition of good academic work*' (Becher and Kogan, 1992:100). It is taken to refer to medieval ideas given sharp focus by Wilhelm von Humboldt who, in founding the University of Berlin, codified ideas that have influenced the development of modern research universities and subsequent understanding of academic culture, including the concepts of *Einsamkeit* (detachment) and *Lehrfreiheit* (freedom to teach) and *Lernfreiheit* (freedom to learn) (Ashby, 1967b:418). Thus the 'ideal' academic culture came to be thought of as an independent republic of scholars (Brubacher, 1967:237) and involve the disinterested pursuit of knowledge by academics with the freedom to follow their research wherever it might lead. Humboldt envisaged academics and students as a community set apart from the rest of society, dedicated to scholarship and with their freedom protected from interference by the state by the autonomy of the university. This 'apartness' within a bounded space (Henkel, 2007) enables academic culture to encompass freedom to teach and research on the basis of principles determined within the university rather than externally imposed. It also ensures freedom of the institution from interference by the state (even when a part of the state), and a form of internal self-government with power widely dispersed at departmental level rather than concentrated at the centre (Ashby, 1967b:423). Originally formulated to protect the university and its academic staff from the state '*preventing the teaching of new truths*' (Brubacher, 1967:238) autonomy is also defended on the basis that only scholars are able to judge the work of other scholars (Atkinson, 2004). It has been argued that there is an essential connection between academic freedom and institutional autonomy (Polanyi, 1962) in that university autonomy flows from the need for academic autonomy since in carrying out their work academics pursue the truth objectively and disinterestedly and consequently the university must be free of control and interference in order to provide the necessary space in which disinterested and objective scholarship can take place. Thus the ideal university culture is thought to be a self-governing, autonomous community of scholars pursuing knowledge for its own sake with staff free to determine their teaching and research priorities, and universities able to appoint staff, admit students, determine what should be taught, set standards and plan future developments free of

external interference (Tapper and Salter, 1995:59). It is acknowledged that such an ideal has probably never existed in pure form (Readings, 1996:5) and that in practice the relationship between the academic community and society is complex, contested and variable over time. The 'ideal' of a republic of scholars has proved difficult to sustain in practice and attempts by the state to ensure that the public interest is served have led to the involvement of a range of external parties in the affairs of universities. The importance of autonomy to the academic community has tended to lead to any changes to the governance of universities being viewed through the lens of suspicion of increased control of academic research and the erosion of academic freedom (Brubacher, 1967:239). Some form of balance is necessary since the state has a legitimate public interest that is difficult to set aside and yet the academic community requires a space in which to pursue disinterested and critical scholarship.

For Henkel, what it means to be an academic is derived from membership of the 'invisible college' of the academic discipline community and of the community of the higher education institution, and it is in these sites that change has occurred (Henkel, 2004:169). Universities have become more powerful corporate entities, however, they have also been subject to new and conflicting values, new functions and a blurring of institutional boundaries. Academic autonomy and the right of academics to determine their own research agendas now must be considered against other competing rights of the institution, funders, stakeholders and government. One outcome of these pressures has been that it is more difficult than previously to support the view that academics work in a bounded space (Henkel, 2005:173).

There has been a tension in the relationship between university autonomy and the state that funds a substantial part of university activities in return for universities meeting national needs. It has been suggested that in the UK this was not brought into sharp relief until the mid-twentieth century because the University Grants Committee, the forerunner of the funding councils, exercised oversight of the sector with a light touch and relatively little input from government (Tapper and Salter, 1995:65). This tension has tended to be more acute in England where separateness from the state has been a more important part of university identity than in Scotland

where universities have had a closer partnership with the state that has not been seen as threatening autonomy. Some have concluded that the current state of relations between the state and universities is one in which the state, by virtue of its provision of substantial public finance, defines and regulates the basis of university operation and uses the funding councils, as NDPBs, to manage the sector. Within this overall framework set by the state and managed by the funding councils, universities are presented as exercising considerable autonomy and retaining control over their own affairs (Tapper and Salter, 1995:66). An alternative interpretation is offered by Neave who argues that this amounts to merely '*conditional autonomy*' in which the policy choices of universities must meet national economic and social objectives in return for public funding (Neave, 1988:45).

As higher education and research has become strategically more important to the performance of the national economy and the level of public investment has increased, it has become more difficult for academics to sustain self-regulating autonomy within a sharply defined boundary (Henkel, 2005:159). Since the 1980s, universities and academics have been the subject of increasing steerage, scrutiny and pressures to adapt their cultures and structures to a new policy environment. Henkel identifies the OECD (1971) Brooks Report as an early example of establishing that the main priority of scientific research is the public interest in the form of social and economic goals and consequently it is for governments rather than scientists to set broad research priorities: '*public funding has become increasingly conditional on the defining of research as strategic...*' (Henkel, 2005:160). In the UK, Foresight policy has brought researchers, industry and government together in the setting of broad national research strategy and funding priorities that serve to frame academic research agendas. It has also brought consideration of research, in the context of possible applications, to the fore and largely superseded the concept of linear progression from basic research to applied research and ultimately commercialisation. As a consequence of multiple partners, network structures have become increasingly embedded in research and innovation policy and practice. The network provides flexibility of membership and extended reach across boundaries of disciplines, institutions, sectors and nations and, whilst it is not an unfamiliar concept

to researchers, *'the degree of its institutionalisation and the reach that is expected of it are'* (Henkel, 2005:160). The interactions stimulated within networks work across boundaries and create novel and complex relationships between individuals, groups and institutions in such a way that *'the image of the institution as a bounded and protective space of distinctive activity is no longer tenable'* (Henkel, 2005:164).

A tension has been observed between two different conceptions of universities that impacts directly on aspects of academic culture and also on the nature of the relationship between the university and the nation. There is an argument that universities are universal in the sense that the objective of academic staff is the pursuit of knowledge and therefore their allegiance is to their subject or discipline rather than to the institution. At the same time however, it is regarded as essential that the institution in which they are located is protected from political pressure in order to ensure that academic staff have the freedom and intellectual autonomy to seek knowledge (Paterson, 2003a:68). This argument is used to suggest that the goals and structure of universities are such that they are not suited to reforms of the public sector generally and new managerialism. However, it is the position of the university in relation to its role in maintaining and developing the culture of a nation that has been argued to be weakening as globalisation erodes the influence of the nation-state. The university increasingly seeks legitimisation by reference to corporate behaviour rather than as previously by reference to its cultural role for and on behalf of the nation-state (Readings, 1996). In linking the university to the national agenda, this approach recognises the legitimacy of the state to govern, including its right to ensure public funds are used efficiently and effectively and therefore that universities, as recipients of state resources, continue to support and advance national objectives. This provides a rationale for the introduction of managerial concepts and practices. At the same time it also raises issues of institutional and academic autonomy. What is characterised as *'the decline of donnish dominion'* (Halsey, 1992:12) and *'the resulting crisis of identity in higher education'* (Paterson, 2003a:68) refers to aspects of academic culture in which there is a feeling of intervention by the state and society in the fundamental principles of academic life. However, academic culture is thought to be more complex than the extreme positions

of autonomy versus state control suggest (Paterson, 2003). Academics have been found to share the political and social values of their region or state, or embrace the idea of universities as private entities (as historically has been the case in England) or alternatively embrace the role of universities as public and national institutions as developed in Scotland where the ideas of knowledge as a public good and the importance of drawing on a broader national pool of talent came to be described as 'democratic intellectualism' (Davie, 1961; 1986). In these ways academic culture is inextricably linked with society. Paterson (2003) examined the role of cultural context in influencing academic values and found some differences between the values held by academics in Scotland and those in England that were attributable to location since academics who had moved from England to Scotland shared or came to share the same values as academics who were born in Scotland and were different from the values of academics working in England. Paterson found a high degree of shared values in universities regardless of whether located in Scotland or England but also some important differences. Academics in Scotland advocated more civic views than those in England and therefore concluded that '*we can reasonably talk of the maintenance of a tradition of democratic intellectualism...*' (Paterson, 2003a:91). This draws on the shaping character of national culture forms and forms a link between the historical and cultural context of the nation and academic culture (Dickson, 1994; McCrone *et al.*, 1998). Thus academic work is a socially embedded activity and academics require autonomy as a protection from political, religious or secular intervention in ways that might prevent or distort the advancement of knowledge. They also require autonomy since the nature of academic work and intellectual progress means that academic autonomy and the space it provides to release creativity and originality in a worldwide network of specialists is necessary for the efficient and effective pursuit of ideas and knowledge. It is also linked to ideas of democratic intellectualism since it requires a group endeavour in which findings are made available to peers and where good work is worthy of respect regardless of who produced it.

In this discussion of academic autonomy are indications of the challenges it confronts in the face of a managerialist oriented public sector reform agenda, and key

aspects of the literature documenting the encroachment of managerialism on autonomy will be explored in the following section.

The Encroachment of Managerialism on Academic Autonomy

It has been observed that the basis of academic autonomy is being challenged by changing assumptions of the role of higher education and research in contemporary knowledge societies (Henkel, 2007:87; Altbach, 2001) and by the public sector reform agenda that has been active in the UK since the 1980s. Universities as the 'axial structures' of new knowledge societies (Bell, 1973) have found an enhanced role, however, at the same time their autonomy has been challenged as government and industry have become increasingly involved in the process of establishing strategic research priorities. It is not only the autonomy of institutions that is challenged, academic culture is also perceived to be under threat: '*all semblance of a shared academic culture rooted in supposedly universal cognitive values... has disappeared*' (Scott, 1997:7). Whether the terms applied are '*new managerialism*' (Deem, 1998:49), '*new public management*' (Hood, 1995:93) or '*new higher education*' (Trowler, 2001:185) it has been observed that the approaches and techniques have resulted in significant organisational and cultural change in higher education and the public sector generally in the nations of the West (Deem and Brehony, 2005:217).

The boundaries protecting academic autonomy have been eroded by UK science policies that have enacted the principle of the OECD (1971) Brooks Report that it is for governments to set national research priorities in the light of social and economic aims rather than for researchers to determine the research agenda (Henkel, 2004:170). Therefore, where public money is used to fund research the public interest is measured alongside the academic interest in order to establish priorities. This leads to a form of '*conditional autonomy*' in which institutions and academics exercise autonomy only in so far as they are serving the economic, political and social goals of the state (Neave, 1988:46). The role of the UK funding councils and research councils (NDPBs) has shifted from acting as a 'buffer' between the

universities and government to acting as agencies on behalf of government charged with implementing and measuring progress towards government policy. The previous definitions of protected space for academic and institutional autonomy are now contested and less fixed, and the concept of non-intervention in academic and institutional affairs has been difficult to sustain in the contemporary social, political and economic context (Henkel, 2007:94). For example, in the UK there has been a process of the state acting to involve itself in functions previously regarded as central to academic autonomy. The Research Assessment Exercises is an example where peer review has been developed and formalised as a management tool (Neave, 1988). Traditional academic culture has been affected in recent years by the modernisation of the public sector generally and by the introduction of management concepts and practices from the private sector. The introduction of the idea that university activities require management is relatively recent. Universities were previously regarded as communities of scholars pursuing new knowledge relatively free of external or internal 'interference' and arranging their own governance in the spirit of collegiality with emphasis on equality, trust and minimal hierarchy (Deem, 1998:48). However, managerialism challenges these assumptions with a set of values and beliefs oriented towards efficiency, economy and effectiveness, a '*market*' as opposed to a '*producer*' orientation, and the active management of employees to achieve institutional objectives (Trowler, 2001:185).

New managerialism is taken to involve the transfer of theories of management from the commercial sector into public sector institutions including universities. The term embraces ideologies about the appropriateness of commercial sector management techniques to public service institutions and the way these are implemented in practice (Deem, 2001:10). New managerialism is presented as a contrasting approach that challenges and seeks to remedy the perceived inefficiencies of public bureaucracies and bureau-professional power (Deem and Brehony, 2005:220; Deem, 2007:1). Academics have experienced this intervention as an attempt to replace bureau-professional organisational models with market-entrepreneurial regimes. The discourse has shifted to involve 'corporate culture' as a means of normalising and controlling the behaviour of academic staff in ways deemed desirable by

management. Trowler's research on the constitutive power of managerial discourses draws on Foucault's argument that discourses are '*...practices that systematically form the objects of which they speak... they constitute them and in the practice of doing so conceal their own invention*' (Foucault, 1977:49). In this way, discourses participate in creating social reality in part by steering the language away from alternative ways of thinking and towards a single conceptual approach (Trowler, 2001:197). Where new managerialism has been influential, is in introducing new models and approaches to educational institutions in order that they become more '*effective carriers and transmitters of economised education*' (Ozga, 2000:86). Professional expertise is therefore reconfigured to include not only intellectual rigour but also relevance, applicability and '*what works*' (Harris, 2002:324). New managerialism in higher education has encountered, and must deal with, the pre-existing balance in the governance of universities between corporate bureaucracy with its need for managerial control and academic professionals who regard professional autonomy and collegiate self-governance as essential. These organisational arrangements have been referred to as '*professional bureaucracy*' (Mintzberg, 1979) and have provided a workable compromise since the mid-twentieth century (Deem, 2007). Through these processes the contemporary university '*is busily transforming itself from an ideological arm of the state into a bureaucratically organized and relatively autonomous consumer-oriented corporation*' (Readings, 1996:11). While, within the university responsibilities are devolved and initiative encouraged, at the same time academics also experience new managerialism in new methods of surveillance and self-monitoring including appraisal, target setting and performance monitoring (Ball, 1998:125). Thus, new managerialism is associated with high levels of external accountability, monitoring and audit of performance and quality. It coincides with a number of shifts in the external environment including a strengthened role for government in determining university objectives through macro steering mechanisms, '*massification*', marketisation, downward pressure on public sector funding, the growth of a culture of audit and regulation, and the emergence and impact of globalisation. Some writers have argued that the higher education sector has not helped itself by being slow to respond to new circumstances arising in a rapidly changing world: '*universities have*

a long-standing record of being deeply conservative and resistant to change' (Smith, 1999:169). Others counter this assertion by arguing that universities have adapted quickly to changing circumstances and that the modern university has transformed itself into *'an open institution with highly permeable boundaries'* dependent on others for resources, organisational and intellectual values and *'not a self-referential institution, recognisably complete in itself'* (Scott, 1997:11).

However, the impact of new managerialism and other public sector reforms on the academic culture is generally perceived by academics to be negative. Massification has changed the relationship between academics and students (Trow, 1974) and may have affected the status of the academic profession (Halsey, 1992) and lowered morale (Fulton, 1996). Constraints on public sector funding have resulted in lower expenditure per-student and lower relative salaries for academic staff (Deem, 2007). The effects of audit culture have been suggested as 'deprofessionalisation' of the academic profession (Halsey, 1992) although Trowler (1998) discerns a more varied response by academics possibly involving re-professionalisation and new thinking about the core values of research and teaching (Henkel, 2000). Slaughter and Leslie have suggested autonomy is threatened by the connection between university research and globalisation in that academic research is argued to be sufficiently central to knowledge economies that although researchers have assumed a new level of visibility and priority there is a simultaneous increase in the number of processes by which institutions seek to manage research (Slaughter and Leslie, 1997). These include increased prioritisation and professionalisation of contract winning and maintenance, and the linking of success in this competitive activity to receipt of additional resource and status. The mechanisms for this may involve subtle yet powerful ways of reshaping research identities. For example, the success of an academic in the competitive processes of research bidding, with the institutional rewards it brings and the recognition by, and association with, those in power, may have the effect of encouraging researchers to adopt an entrepreneurial mode of behaviour without having to be expressly asked to do so. In this way the policy responses of Western nations to the challenges of globalisation, such as the

commercialisation of research, are argued to encourage the transformation of liberal intellectual researchers into '*researcher as entrepreneur*' (Ozga, 1998:147).

This has a significant impact on academic culture, since competitive and managerial pressures risk disrupting the pattern of academic work as 'unalienated labour' in which academic effort is freely given because the individual regards it as consistent with the interests of, and valued by, society. Research activity has value for the scholar beyond financial rewards since it is a transformative process for the researcher: '*the practice of research is also a learning labour process which contributes to the process of subject or self-formation*' (Seddon, 1996:202). Therefore, in a new environment dominated by managerialist culture and practices there arises the question of effects on the individual. Casey (1995) suggests that it creates feelings of ambivalence towards the work and the culture and produces high levels of anxiety since '*the integrity of living one's life according to the calling of one's occupation is now denied*' (Casey, 1995:196). In this managerialist project of re-design of institutions and their cultures and practices to meet the goals of economic rationalism, there is a risk that the complexity of education as a social institution is overlooked. Consequently, academic culture is in tension between a research management agenda designed to organise activity and resources to produce desired outcomes, and education as a social institution that uses its 'space' for broader social aims including the development of individuals and knowledge (Seddon, 1996:34).

The introduction of managerialism is complicated since academic staff are highly independent and supported by the principle of academic freedom. Also, an essential characteristic of scientific progress is originality and this is argued to encourage a questioning and dissenting disposition in academic researchers that presents challenges for traditional forms of management where conformity with centralised decisions and strategy is required. Managerialism also encounters structures not suited to the management control mechanisms of the private sector. Universities have been characterised as loosely coupled systems (Weick, 1976) and this makes hierarchical management models difficult to implement because the necessary line

management structures are diffuse. This highly distinctive internal social structure results in a considerable degree of power being held by the academic community and flowing upwards towards the senior levels of the institution (Ashby, 1967b:420). Many academics also regard their first allegiance as being to their discipline or subject and therefore institutional loyalty is subordinated to that of academic peers worldwide, the 'invisible college'. Academics, particularly in research intensive universities have tended to regard management (eg Head of Department) as a job they would undertake only reluctantly since it would divert them from their main priority of research and teaching: '*the only true source in academia for peer respect and praise*' (Tadmor, 2007:290). The culture of research-intensive universities is one of independent researchers, autonomy and self-management. Where researchers generate large streams of research income they have a substantial degree of independence that makes management of them in the conventional sense problematic. Nevertheless, Deem (2007) has found that academics perceived universities to be more managed and bureaucratic than previously and that private sector methods of managing organisations are now prevalent including performance monitoring, target setting and audit. Academics reported feelings that there had been a decline in trust within their institutions together with increasing workloads, longer hours and greater accountability. They felt collegiality was being lost by the introduction of overt line management and that financial concerns influenced more decisions and that senior management teams seemed more remote. This may be taken to indicate a shift away from a republic of scholars model towards a 'stakeholder university' model. In the former, the management of the institution lies with the collective will of the professoriate and the job of management is to represent their views and decisions to the outside world and to defend academic interests against encroachment of government or society. The principle of academic freedom is closely linked to institutional autonomy in this model (Bleikle and Kogan, 2007). In the latter, the university is open to the views and requirements of a number of legitimate interests and management seeks to balance the needs of multiple stakeholders of which academics are only one set. This has led to the development of more hierarchical structures that enable managers to take strategic decisions in some areas and commit the institution to achieving them. These new structures to some

extent co-exist with former arrangements and are said to be 'layered' on top in such a way that change becomes a gradual process of adding new structures to existing ones (Bleikle and Kogan, 2007).

The university in the stakeholder model has had to respond to changing political and societal needs. Universities in the UK have moved from a model of governance in which authority is derived from representing the professoriate as members of an egalitarian and autonomous community, to claims to authority based on the support of government and industry, formulating strategies that these external parties require and inducing staff to contribute to the pursuit of these strategic goals. The development of the knowledge society and the knowledge economy has brought universities to prominence as major contributors to the global competitiveness of cities and nations. However, additional investment in higher education to sustain and develop the contribution of universities has inevitably brought political scrutiny for value for money, efficient use of public funds and effective organisation to meet the objectives of society and the economy. The academic community has however demonstrated adaptability to changing circumstances over time. Institutions have demonstrated the capability of adapting to a new environment of massification, market forces, the need for increasing investment in scientific research and the growth of knowledge societies that makes collaboration and partnership essential. In these new conditions the university cannot act independently but requires novel and wide ranging forms of partnerships and *'only as it subordinates autonomy to co-operation can it maintain excellence in the face of the chain explosion of knowledge'* (Brubacher, 1967:245).

New managerialism in its strong form finds change in higher education problematic since academic support and commitment is essential for initiatives within higher education to be successful and it is difficult to compel or enforce compliance with policy. However, in its more subtle forms it recognises and works with the need to secure the commitment of academics, for example, by persuasion or rewarding certain behaviours, and it deploys understanding, motivation, rewards, selling and persuasion to achieve its ends. Reflecting this 'softer' approach Deem (2007) in a

study of the degree to which new managerialism has entered higher education found that managers in higher education, despite the introduction of private sector management approaches, still tend to be drawn from the academic community. The mechanisms that these academic managers use in managing staff have been found to be subtle rather than crude (Reed, 1999). This may be because they share many of the values of the academic community from which they are drawn, and in which they may still be involved including, for example, academic autonomy or the need for space for creativity. It may also be that they reinterpret management techniques in the light of their understanding of what will work in an academic setting. For these reasons academic managers may still seek to manage the achievement of new objectives and targets but in ways that are workable in the context of higher education and this may lead to a more consultative, persuasive approach than might be found in the private sector. However, some academics felt their managers were too authoritative, remote, or simply not good managers (Deem and Johnson, 2000). Overall, the complexity of academic culture was evident, as was the complexity of the relationship between older forms of university management and the introduction of newer elements drawn from private sector models that could be characterised as a hybridised form of new managerialism.

The growth of the higher education sector in the UK has brought with it public and political scrutiny and required it to justify public expenditure and demonstrate value for money. The environment universities operate in has become one of quasi-market conditions in which they compete for students, staff and research income (Deem, 1998:48). Academics experience this in external and internal pressures to do more with fewer resources. However, it is important to note that within this context academics and managers continue to be involved in a complex relationship of mutual dependence and inherent conflict (Lipsky, 1980:25). Managers can provide support, resources, access and rewards but they remain highly dependent on academic staff in order to achieve their objectives. Academics and researchers are oriented towards their discipline, the needs of partners and funders, maximising autonomy, and the achievement of individual goals, whereas managers tend to be concerned with the collective achievement of institutional goals and generally extending control

processes in order to plan and to minimise risk. It is in the complexities of the managerial relationship in universities, particularly in research-intensive universities, that managerialism encounters alternative ideologies and practices that resist and modify its introduction. Trowler's work suggests that while discourse is a powerful socially constitutive resource it can be resisted, and alternative repertoires given currency by individuals and groups drawing on alternative conditioning structures within the academic community and the agency of various communities of practice including the invisible college (Trowler, 2001:197).

A contribution is made by Lipsky to understanding the role of individuals in the public sector who are not in managerial positions but nevertheless have significant influence over policy and practice and may offer an insight into academic culture. Characterising such individuals as '*street-level bureaucrats*' Lipsky emphasises that their policy-making roles derive from '*relatively high degrees of discretion and relative autonomy from organizational authority*' (Lipsky, 1980:13). This connects with the discussion of academic freedom and the perceived independence of academics in loosely coupled institutions where they tend to have greater allegiance to their academic disciplines. Academics therefore in the field of research, individually and collectively, possess the discretion and autonomy to make policy in their areas through interactions with supporters, funders and relevant bodies. In relation to research pooling, this cultural orientation and experience as '*street-level bureaucrats*' may have helped to create the conditions which empowered academics to take the initiative and play a leading role in determining major strategic change in the way research in Scotland is to be conducted.

Readings provides a critical perspective on the impact of global corporatism on universities, arguing that as the power of nation-states has weakened in the face of globalisation the role of universities in the production and reproduction of the culture of the nation has lessened to be replaced by adherence to the tenets of capitalism. The influence of the professoriate has been weakened and the discourse of excellence has displaced reference to cultural contribution as the way to legitimise the role of the university in society. For Readings, excellence is a malleable term devoid of

content and therefore administratively effective, whose only criterion ‘...is performativity in an expanded market’ (Readings, 1996:38). The issue raised by Readings is how academics are to envision and adapt the university to ‘post-historical’ circumstances, to which he offers the idea of a university as a ‘community of dissensus’ recognising that academic discourse within a university is a dissensual process that challenges and destabilises and that:

No consensual answer can take away the question mark that the social bond (the fact of other people, of language) raises. No universal community can embody the answer; no rational consensus can decide simply to agree on an answer (Readings, 1996:187).

Readings’ appeal is to the inherent strength of academic culture, the community of dissensus, as a counter to the discourses of corporatism, managerialism and performativity. Academic culture and autonomy is, therefore, forced to come to terms with global shifts in the policies of governments towards the public sector and universities in which there are major drives towards reducing the costs of the public sector, increasing efficiency, ensuring value for money and introducing a customer focus. These pressures, including the decline in government funding and the resultant drive to find new income streams, have been influential in adopting new ways of thinking about public service delivery, including new managerialism with its focus on new models of leadership and management, corporate culture, appraisal, target setting and performance management. The new managerial discourse claims to be a search for efficiency, effectiveness and excellence through continuous improvement (Deem, 2001:10). The work of Slaughter and Leslie (1997) and Clark (1998) is taken to suggest that new managerialism ideologies are now well established and moving universities towards being seen as income generating organisations in the context of local and global knowledge societies (Deem, 2001:13). For academics, there is uncertainty about the appropriateness of the models such as new managerialism that are being introduced to the nature and characteristics of higher education and research.

Pooling Located Between Academic Autonomy and Managerialism

The nature of academic work is therefore integral to the development of academic culture and academic identity. It requires a degree of autonomy as protection from the state, to create space for academic work to take place, and because of the nature of scientific progress there is a persuasive argument for autonomy on the grounds that it is a more efficient and effective method of organising the advancement of knowledge. Set against this is an agenda of public sector reform involving aspects of managerialist culture and practice borrowed from the private sector and introduced with the objective of increasing control over the activities of the academic community particularly where public sector funding is involved. This tends to be resisted for reasons that are justified by reference to the nature, culture and practice of academic work. It is possible to consider research pooling in the light of the tension between academic culture and attempts to introduce a managerialist culture into the higher education sector.

The development and implementation of research pooling was not resisted, and enjoyed the support of the academic community. Research pooling appears to be something other than managerialism and yet it is far from the status quo and moves the practice of academic research on in ways that satisfy policy-makers, managers and academics. It seems appropriate to the needs of the different parties involved. For the academic community it acknowledges, and works with, the fundamental issue of academic culture and identity, where managerialism has encountered difficulty. It recognises that the primary allegiance of academics is to the discipline and subject community, and it facilitates academics working together across and through institutional boundaries. It recognises the difficulties and sensitivities involved in imposing higher levels of managerialism in an attempt to control, direct and exhort academics to greater efforts. It enables academics to organise and manage themselves as a larger cross-institutional group, making national strategic goal setting possible, efficiency gains through coordination achievable, and joint investment in equipment, infrastructure and training a reality. The academic community retains control and attracts resources. Policy-makers at sector and

government level achieve coordination at national level together with increased efficiency, and this is achieved with the support of the academic community and without recourse to large management and bureaucratic structures. Institutions retain academic staff and research capability and gain additional resources. They also retain sovereignty, yet as Brubacher (1967) observed, cooperation is emerging as more valuable than institutional autonomy.

Section 5: Research Pooling in its Policy Context

This section connects to the previous discussion of globalisation, knowledge and academic communities, and sets research pooling in the context of these 'macro' factors. It also suggests that '*local*' contextual factors are important and it introduces the concept of 'travelling' and 'embedded' policy as a way of understanding the development of research pooling, before going on to the specifics of the Scottish policy context, including key themes, actors and policies that relate to research pooling.

Part 1: Knowledge and the Role of the University

It has been observed that there is a global shift in the basis of competition between countries and in the source of their competitive economic advantage (Brint, 2001:101). For western economies it is no longer sufficient to rely on traditional industries to drive economic performance. Instead, countries and regions now look to knowledge economies in which the '*source of productivity lies in the technology of knowledge generation, information processing, and symbol communication*' (Castells, 1996:17) in order to compete effectively in the new world economy. The type of knowledge required for these new knowledge economies is different from the knowledge that previously underpinned traditional industrial economies in that global economic development now depends to a greater extent on '*the action of knowledge on itself as the main source of productivity*' (Castells, 1996:17).

Where capital and labour defined the industrial age, the main characteristics of the post-industrial age are information and knowledge (Bell, 1973:xiii). Productive knowledge is therefore believed to be the basis for national competitive advantage within the international marketplace (Ozga, *et al*, 2006:7) and governments have come to characterise their societies as 'knowledge societies' and to prioritise knowledge as the main driver of economic and social prosperity (Henkel, 2007:89). This is reflected in policy at national and supra-national levels. For example, the Lisbon Declaration of the European Union declared the intention of member states to

become 'knowledge economies' (European Council, 2000). Knowledge production therefore has a central importance to the competitive performance of knowledge economies. Knowledge production, however, is a complex phenomenon that can be thought of as '*a capacity for social action*' that arises in situations not easily regulated or routinised and where there is some freedom for creative thinking and problem solving (Stehr, 2002:27). Thus, rather than regulation and target-setting (Tapper and Salter, 1995) the creation of new knowledge, and therefore the foundations of a modern internationally competitive economy, is dependent to an extent on the freedom to be creative and innovative, since increasingly:

Ideas are generated in practice through entrepreneurship and experimentation and spread contagiously through a communications infrastructure driven by a global revolution in new, networked technologies (Bentley, 2001:9).

It is this freedom I would argue, drawing on the work of Stehr (1994 and 2002) and Castells (1996) that can lead to the development of economic and social comparative advantage.

The role of universities in generating useful, economically viable knowledge

The knowledge society has transformed traditional industries but it has also developed new ones, particularly science based industries and professional services. These industries depend on highly educated 'knowledge workers' and on research and innovation to produce technological advances that create new markets and lead to new generations of products, and therefore produce competitive advantage and profitability. In the knowledge society, universities have moved from the periphery to the centre of the economy since they provide knowledge workers and are a major source of the research that underpins product and market development (Altbach, 2004; Brint, 2001:101). In Europe, for example, universities are reported to employ one third of researchers and produce 80% of fundamental research (European Commission, 2005). In Scotland, universities are recognised to occupy a central position in relation to the knowledge economy and this is reinforced by relatively low levels of investment in research accounted for by industry and which falls below

the UK and OECD averages (Scottish Executive, 2001; Universities Scotland, 2007). Universities are therefore central to the process of creativity and innovation in the new knowledge societies. This was foreseen a generation ago when Kerr argued that research universities were well positioned to make a strong contribution to economic performance (Kerr, 1963). They are institutions that have knowledge production and dissemination within their fundamental mission and they have evolved structures and processes that facilitate and encourage new thinking. Universities do not simply accumulate information, they facilitate conversations and exchange within and among communities (Readings, 1996:5) and this represents a unique contribution to creativity and innovation in a knowledge society.

As a consequence, the global development of knowledge societies prioritises education as an important means of driving economic and social development (World Bank, 2008). This new, pivotal, role of higher education is used to provide a context and rationale for nations to attempt to harness HE systems to the production of new knowledge and knowledge workers for economic development, and at the same time care is required in how this is done, for example, avoiding over-regulation that may act to stifle the contribution required. This policy agenda of setting out to link education more closely to the national economic interest has been observed worldwide but is especially prevalent in western developed economies (Ball, 1998:119). In Scotland, for example, the Scottish government in 1999 gave expression to this relationship by embedding a link between universities and the economy in government structures and policy making by locating responsibility for higher education alongside enterprise and lifelong learning in a single department.

Politicians and education policy-makers are confronted by the need to compete in a global marketplace for capital investment and consequently they view an education system geared to satisfying the needs of the new knowledge economy as being a necessary feature of an attractive proposition for global capital. This leads to a policy focus on education and research as fundamental to the development of the knowledge economy and the knowledge society. In this, universities are necessary for policy-makers, however they must be encouraged and steered to ensure that their

contribution to the economy and society is maximised. At the European level the publication by the European Commission of, for example, *'The Role of the Universities in the Europe of Knowledge'* and *'Mobilising the Brainpower of Europe'* (European Commission, 2003; 2005) serves both to bring about change in universities and to legitimate the EU's role in HE policy making (Keeling, 2006). As Keeling observes:

The formal definition of European-level objectives for universities within the Lisbon Strategy and the Bologna Process has complemented – and significantly bolstered – the goal setting for the education sector outlined in the EU Member States' joint Work Programme 2010. This has opened new opportunities for Commission policy activism in higher education (Keeling, 2006:205).

Thus it is possible to see that there may develop tensions between the conditions that are conducive to, and productive for, academic creativity and research innovation, characterised as *'freedom'* and the pressures on policy-makers to seek to control higher education and direct it towards national and international policy objectives.

Research Pooling and the *'Playing Out'* of Travelling and Embedded Policy

Travelling policy concerns the idea that global or supranational policy influences national policy worldwide. It refers to the activities and policy outputs of supra and transnational agencies, and to their common agendas including, for example, in this context the drive towards harnessing the research activities of universities to the needs of the economy in the information age (Ozga *et al.*, 2006:8). It is a concept that includes the necessity to ensure that a nation is able to produce *'world-class'* research to support its economic and business performance, enhance its reputation and sustain social and cultural development, and do so within tight public funding constraints. These policy approaches towards higher education have been observed in Western nations and in the discourse of supra-national organisations including the World Bank and OECD.

Whilst these global policy themes may be pursued by policy makers at international, national and local levels in order to reshape education systems, they must interact with institutions, traditions, politics and ideologies at the national and local levels in order to move beyond rhetoric and effect change. In order to understand this interaction it is useful to examine the relationship between travelling and embedded policy (Alexiadou and Jones, 2001).

Embedded policy exists in 'local' spaces where global policy agendas meet existing policies and practices. They include national and local traditions, ways of working, forms of organisation and ideologies and are influenced by the specific cultural context. Under conditions of globalisation there is an argument that policy choices may be narrowing, however the local context offers the potential for differentiation and when global pressures interact with national and local practices and assumptions there is still scope for mediating and reshaping travelling policy in distinctive ways. Therefore, it is likely that the effect of travelling policy will vary according to the way it is received by national policy elites where global policy interacts with existing priorities and practices. These global policy discourses do not simply emerge in a standard form across the world. Policy makers at national, regional and local levels interact with these policy ideas and interpret them in terms of the particular context in which they are to be applied, testing for what is relevant, desirable and workable in the local situation, and exploring the scope for '*policy inflection*' (Alexiadou and Jones, 2001:2). Lingard (2000) specifies the need for further enquiry to understand how national policy agendas respond to pressure from the policies, discourses and activities of supra-national agencies. Other writers also emphasise the importance of the local when attempting to understand policy by asserting that where the literature does not take account of the local context within its macro analyses then it is weakened by '*overlooking local responses and variations*' (Marginson and Rhoades, 2002:286) and that policy analyses '*fail to have much force*' unless they involve '*very fine grained analyses*' (Kogan, 1996:397). Appadurai suggests that because of this interactive relationship between the global and local it is possible to find evidence of 'vernacular globalisation' in which global pressures and policies influence national and local levels but are mediated by local and national culture,

history and politics and reinterpreted in the process (Appadurai, 1996). Globalisation therefore is a complex phenomenon that can also lead to the emergence of 'local' identities as individuals and institutions make sense of global forces using the cultural and political processes available to them (McCrone, 2005:8).

Located within this framework, research pooling can be seen as a way of understanding the relationship between travelling and embedded policy. It provides an example of the relationship between policy and cultural identity in a specific national context, in what has been described as the 'collective narrative' (Popkewitz *et al.*, 1999). It is suggested that the collective narrative may be a complex social and cultural phenomenon, however in practice:

Whatever its complex cultural and social origins, [it] was most coherently articulated by national and local policy makers, who used it to moderate and mediate travelling policy (Ozga, 2005e:122).

McPherson and Raab (1988) have also illustrated the influence of 'assumptive worlds' and shaping myths on policy makers, and globalisation and travelling policy pressures at some point are likely to interact with these if they are to effect change. Consequently, travelling policy agendas come up against the cultural context of the nation, including the power of the collective narrative and shaping myths, existing institutional policies and practices, policy communities with distinctive patterns of practice, political agendas, economic circumstances and social patterns. This is the complex environment in which policy-makers live and work and, in the context of research pooling and global pressures to produce and sustain world-class university research, it is held to influence their attitudes, values and preferences (Paterson, 2003a). In this way, research pooling policy can be seen as an opportunity to contribute to understanding the playing out of the encounter between global travelling policy pressures and existing policy formations, institutional contexts, networks and relationships. It is in this encounter that it is possible to see the ability of local policy makers to remodel travelling policy according to national histories, traditions and social relations, and there is an argument that through this process it is possible for globalisation to stimulate the revitalisation of institutions by reshaping

them in ways that draw on national context and practices in order to meet global challenges in distinctive ways.

The effects of globalisation are complex and it is argued that national context, embedded policy and the agency of local policy makers interact with global pressures and policies and act to shape national policy. Therefore from this point of view, globalisation need not be a homogenising force since there is scope for cultural context and individual and institutional agency to shape responses. This draws attention to the way in which policy makers engage in practice with the manifestations of globalisation and the strategies they use to turn them to advantage within their jurisdiction (Henry *et al.*, 1999:86).

Small Nations Competing in the Global Knowledge Society

Small nations, such as Scotland, and the universities located within them, face additional problems competing in the global knowledge society. As a consequence of their small size, or location at the periphery of a large economic bloc, smaller nations tend to lack the significant industrial base necessary to support research in the private sector and that might also provide a route to commercialisation for university research. Their ability to innovate and compete is constrained by the lack of commercial organisations for universities to partner with. As a result, countries and universities at the 'periphery' lack the additional stimulus to research in specific areas that can be provided by entrepreneurial and commercial organisations. At the same time, smaller nations lack the financial resources necessary to develop and sustain world-leading research universities thus creating inequality in global higher education and the situation in which '*the world of globalized higher education is highly unequal*' (Altbach, 2004:4). This makes it difficult to establish a cycle of research, innovation and commercialisation where the university sector and the industrial base are both relatively weak in comparison to larger nations. The small size of the country in terms of population and institutions creates difficulties of scale and critical mass. University research, particularly in the sciences, requires large teams of academics and significant capital investment brought together to

concentrate on specific areas of research. This is difficult to achieve in a small nation where it lacks the number of highly qualified researchers to carry out leading edge research or to bring them together would require a disproportionate and unacceptable allocation of scarce resources, and as Unesco notes: *'there is a real scientific divide setting the "science-rich countries" apart from the others'* (Unesco, 2005:99). This is linked to a further constraint on small countries. Such nations experience difficulty in attracting the very best research staff when competing against larger countries with more resources and reputation advantages. It is also the case that larger countries tend to produce greater numbers of leading universities, for example, in the Shanghai Jiao Tong international rankings the USA accounts for 53.5% of the world's top 100 universities (Shanghai Jiao Tong University, 2007).

Scotland's Knowledge Production and the Issue of Scale

Scotland has entered the new knowledge society with advantages over many other small nations in the form of a highly developed university system and a research base of international quality (Scottish Funding Council, 2005; Scottish Science Advisory Committee, 2004). Dating from the early 15th century the Scottish HE system now has 14 universities with research as part of their mission in relatively close proximity to each other. When measures of research output are taken into account Scotland is seen to have a relatively greater impact on world higher education than the nation's size would suggest with research papers produced in Scotland cited more than any other OECD country (Universities Scotland, 2007). Scotland's universities serve a population of 5 million people and this high density of knowledge production provides an opportunity to develop the scale and critical mass necessary to compete effectively in the global knowledge society. However, to compete internationally requires that Scotland solve the problems of scale and critical mass. These arise because the university system is distributed geographically with researchers in the same disciplines working in separate institutions. This has tended to mean that collaboration is the responsibility of individuals and small groups of academics and the difficulties inherent in such arrangements and the rivalry between institutions has tended to act as a barrier to the creation of large-scale research teams with the critical mass to compete globally. Scotland therefore was faced with the challenge that it

possessed a significant amount of the intellectual and financial resources to compete internationally however these assets were dispersed across the country in several different institutions making the achievement of scale and critical mass difficult. A solution was required for Scotland to draw on its existing research strength and find a way to achieve the scale necessary to sustain and develop its international research position. The solution arrived at was research ‘pooling’, the central topic of this thesis, and what made it possible in the context of these problems and issues.

Research Pooling in Context: Why it Emerged and Why it is Important

The growth of knowledge economies and societies has led to a change in the significance of research and, in turn, to increased pressure on universities from policy-makers (Tapper, 2007; Scott, 1997). This has arisen because of the growth of importance of knowledge to economies and also the substantially increased levels of public funds being invested in university research. As a result, policy-makers search for levers to steer universities in ways that demonstrate a return on investment and gains brought about by efficient organisation and processes, co-ordination of activity and feeding research outputs into the innovation processes of industry. This has led policy-makers to explore different approaches including competition, marketisation, grouping, assessment and commercialisation, a repertoire of new developments intended to maximise returns and change the orientations and behaviour of universities (Slaughter and Leslie, 1997; Neave, 2002). This focus on research and on policies designed to transform universities and link them more directly to industry and to economic performance can be seen at national and supra-national levels including the European Union.

The European Policy Context for Research Pooling

Research-intensive universities in Europe have made the case that:

The capacity of a society to create and introduce beneficial innovation is vital to its economic success and its social and cultural vitality, and that: most of this innovative capacity is derived from (university) research (LERU, 2003:1).

The implications of this argument are understood by the European Union and it regards universities as having a fundamental contribution to make to its objective of creating a knowledge society and knowledge economy. The Communication from the European Commission on *'The Role of the Universities in the Europe of Knowledge'* (European Commission, 05.02.2003 COM (2003) 58) establishes the dependency of the knowledge society on the production, dissemination and use of new knowledge and acknowledges that by being active in all three processes universities have a unique contribution to make. These processes underpin the knowledge society and universities are therefore positioned as a key contributor to meeting the goal set by the European Council at its Lisbon meeting in 2000 of becoming *'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion'* (European Commission, 05.02.2003 COM (2003) 58:2).

In order to move Europe towards its goal of becoming the leading knowledge economy the European Union through its Lisbon Partnership for Growth and Jobs set the objective of increasing investment in research from its present figure in the EU of about 1.9% of Gross Domestic Product (GDP) to 3% of EU GDP by 2010, subsequently amended to 2.6%, (European Commission *'More Research for Europe; Towards 3% of GDP'*, COM (2002) 499, 11.9.2002; European Commission Facts and Figures of the European Research Area, MEMO/07/128, 04.04.2007). As part of its Lisbon strategy the EU created the European Research Area (ERA) in 2000 as an attempt to create a unified space across Europe in which researchers would be able to move and work freely and in which Europe's scientific resources would be more integrated and coordinated. The intention was to attract and retain research talent, stimulate industry to invest more in research, and enhance the competitiveness of European research and research institutions (European Commission, COM (2000) 6, 18.01.00). This was backed by the financial resources of the EU Research Framework Programme which funded initiatives that, in addition to producing high quality research, were aligned with the Lisbon strategy and would help bring about the ERA. The EU has also been instrumental in coordinating research and innovation policy at the level of Member States and in the coordination of research activities and

programmes at national and regional levels (European Commission, COM (2007) 161, 4.4.2007). In 2007, the EU created the European Research Council (ERC) under its Seventh Research Framework Programme (FP7) with a budget of 7.5 billion Euros. It is intended to support and finance 'frontier research' and encourage researchers to take risks in order to achieve the scientific breakthroughs necessary to sustain economic competitiveness. However, it sees its role as extending beyond this:

The ERC aims to do more than simply fund research. In the long term, it looks to substantially strengthen and shape the European research system. It also sets out to encourage universities: to develop better strategies to establish themselves as more effective global players (ERC website, 2008).

The developments and processes of the Lisbon Strategy are intertwined with the other major reforms affecting universities brought about by the Bologna Declaration (1999) and the goal of creating a European Higher Education Area (EHEA) in which higher education would be '*more compatible and comparable, more competitive and more attractive*' (European Commission, 2007c:3).

Lisbon and Bologna, the creation of ERA, ERC and EHEA can be set in the context of a tendency globally to form large scale competitive blocs and transnational alliances in order to compete more effectively. Thus at the supra-national political level the EU has set out to create a 'space' of European higher education and research (Grek and Lawn, 2006) in order to fulfil its ambition to become the world's leading knowledge society and economy. This space can be thought of as:

A way to perceive a new area, only partially visible, which is being shaped by constant interaction between small groups of linked professionals, managers and experts (Lawn and Lingard, 2002:291-92)

This tendency can also be seen at the institutional level in new groupings of universities across national boundaries, including for example, Universitas 21, the League of European Research Universities (LERU) and other global networks of research-intensive universities. A key component of these processes is the drive to promote staff and student mobility: the '*coveted value*' of government policies for

higher education, that has '*has led many nations and regions to compete more intensely for high calibre researchers (eg. EU Bologna-Bergen Process 2005)*' (Kenway and Fahey, 2007:161). Researchers are encouraged to locate themselves in the transnational spaces of knowledge production of the European Research Area (ERA). The intention is that this is not only an economic investment, it is also about the creation of a European space, and research pooling in Scotland echoes this.

In European terms, mobility remains a significant problem and barrier to creating a research bloc capable of competing with the US, China and India. The new requirement for very large scales of research activity necessitates that Europe address academic mobility as a key policy issue to ensure competitive edge. However there is a built-in risk and insecurity in universities and nations regarding the potential failure to attract and retain leading academic researchers and nation states seek to maintain competitive advantage by attracting the best researchers to their 'local' environments (see, for example, Scottish Funding Council, 2006). This strategy counters the risk by building a sense of identification with 'place' and in that context, research pooling in Scotland, in addition to concentrating resources and expertise, could be seen as creating the conditions to market Scotland to international researchers. For example, a recent communication from the European Research Council (ERC) underlines the expectation that mobility will enable the European area to compete, in terms of research and commercialisation, with the current dominance of the USA in knowledge production and with the massive investment in research and development underway in China and India (European Commission, 2007; ERC, 2007).

The promotion by policy-makers of research mobility connects to their assumptions that knowledge production and the commercial and other applications of knowledge can be maximised by broadening academic horizons beyond the silos of disciplinary, institutional or local contexts of production (Castells 1996; 1998; Naidoo 2008; Ozga and Jones, 2006; Kenway *et al.*, 2004).

The EU faces a significant challenge in that its goal of becoming the leading knowledge economy in the world requires that the research contribution of

universities be maximised. However, the EU is not able to exert direct control over this resource and therefore attempts to steer it by a number of means available. It facilitates agreement among Member States to overall objectives (Lisbon 3%) and is therefore in a position to exert influence on the national policy of Member States to develop and implement strategies and initiatives that demonstrate their commitment to achieving the overall goal. It seeks change in universities and research through increased mobility and the creation of a common space, and through increased coordination, integration and investment. It initiates pan-European developments and programmes such as the ERA and FP7 and is able to steer by setting the criteria for accessing its financial resources (FP7) and through the programmes and initiatives it supports. The EU also steers by its influence on the discourse of research, universities, innovation, knowledge and the economy by, for example, framing the discussion through a consistent flow of communiqués, reports, papers, speeches and conferences and through its Europe-wide networks. The collective pressure and processes of Europe-wide change can be seen as homogenising, a form of travelling policy, (Alexiadou, 2001: Ozga, 2005e) and it raises the issue of whether the ways of getting there also reflect the context and priorities, the embedded policies, of the local areas and how these are taken into account. For in pursuit of the Lisbon targets there is more to the European strategy than simply increasing investment, it is also concerned with articulating and implementing a strategy based on shared assumptions, and one in line with *'how we behave here'* (I2).

In developing new forms of governance through networks and 'discourse' intended to steer the HE sector, the EU and Scotland have tended to proceed by exerting influence and promoting a *'discourse'* or *'crafting the narrative'* of higher education in relation to the economy and their policy objectives (Arnott and Ozga, 2009:2-4). The discourse *'does not just represent reality, but helps to create it'* (Trowler, 1998:79); policy-makers seek to draw people in and, through the discourse, create the conditions in which actors with different interests come to be *'captured by the discourse'* (Trowler, 2001:183) and perceive and define issues and courses of action in similar ways.

Scotland, as a small nation in Europe, confronts the same global challenges and shares the same EU objectives. To be a part of Europe requires that a contribution be made to EU goals. Scotland exists within this environment of powerful discourse on education and research, agreements by Member States, frameworks, investment programmes and initiatives. However, Scotland is also enriched by its own context of politics, society, history, education, research and university institutions and interests. The way in which it responds and makes its contribution and how it fits within the large '*bloc*' of Europe may in practice be something to be worked out rather than simply accepted and implemented, and therefore an instance of the relationship between global and local, travelling and embedded policies. In the encounter of travelling and embedded policies there exists, however, potential for creativity and innovation in the translation of policy pressures and agendas to meet the needs of Scotland's HE sector.

Part 2: The Context of Scotland (Including How Policy is Made for HE)

This section provides background on the nature of universities in Scotland but also introduces the idea of Scottish distinctiveness and growing policy divergence post-devolution as a general framing device before moving to focus more closely on higher education.

Post-Devolution Policy Relations in the UK and Scotland

The process of devolution and the creation of the Scottish Parliament in 1999 created new institutions and processes that led to new policy relations in the UK and within Scotland. The Scottish Parliament assumed responsibility and powers for a wide range of devolved areas including education that were not reserved for the UK Parliament. Some areas, however, including among others research, science and innovation became 'concurrent' or shared powers in that important aspects of these areas are within the responsibilities of both Parliaments (Lyall, 2007). These shared responsibilities form part of what has been referred to as '*multi-level governance*' where policy responsibilities overlap between different levels of government (Lynch,

2001:147). This can be seen in the case of research where at the European level policy goals and objectives in relation to research have been set and policy initiatives undertaken (eg. ERA, ECA) while at the UK level responsibility for research funding remains with Westminster, and the Scottish Parliament has assumed responsibility for Scottish universities and significant elements of research and science policy. Research policy, therefore, requires the input and cooperation of these three different levels and the important difference post-devolution is the existence of the Scottish Parliament and Scottish Government and the changed policy relations brought about by their introduction.

Devolution brought with it not only the transfer of powers to Scotland but also a desire to create new policy relations within Scotland. At the time of the creation of the new Scottish Parliament there was a focus on establishing a more inclusive form of government, one that invited participation in politics by the public and interest groups in the '*pursuit of consensus politics*' (Lynch, 2001:89) based on an approach characterised as 'associative governance' (Brown, 2001). Keating (2005a) notes that this desire for a 'new politics' was never precisely defined. However there was a wish to be distinct from the 'Westminster model' and draw on a more participatory process of policy making in which policy would not be the sole preserve of government but negotiated with stakeholders within society in a new governance relationship. Post-devolution politics have involved coalition government, the creation of influential parliamentary committees, greater accessibility of MSPs, extensive consultation on key policy matters together with a move towards inclusivity and the active seeking of views of interest groups. The Scottish Parliament's legislative programme for Scotland is greater than could have been encompassed by Westminster, and the policy outputs have been distinctively Scottish in a range of areas including the abandonment of student tuition fees (Lynch, 2001).

The Impact of Education as a Key Policy Issue

Education is a key policy issue in Scotland and has been central to the expression of Scotland's national identity such that:

Education has become a marker of Scottish identity, associated with various supposed qualities of the Scottish character such as individualism, social ambition, respect for talent above birth, or 'metaphysical' rationalism (Anderson, 1997:2-3; McCrone, 2003:239).

The point has been made that education is closely associated with economic performance, however it is also a carrier of the Scottish sense of self (McCrone, 2003) and therefore closely linked to national identity and national culture. Together with the legal system and the church, education has been an area in which Scotland has been able to develop and maintain its own system distinct from the rest of the UK and:

[Education] is regarded as commanding cultural authority in Scotland, and has been supposed to be tied to Scotland's sense of identity (Paterson et al., 2001:145).

Paterson found that academics in the survey who identified themselves more as Scottish had markedly different views towards education than those who identified more as English (Paterson *et al.*, 2001:153) and argued that national identity could be seen as an important determinant of attitudes to education. The roots of the distinctiveness of Scotland's universities and what they convey of Scottish identity are deep. Universities are socially embedded institutions (Paterson, 2003:68) having in the main been created by states, churches and cities to further their objectives, for example, educating a social elite or providing an educated workforce to enhance a country's economic performance. In Scotland, all three entities, state, church and city, have been active in founding universities, the result being that Scotland has developed its own distinctive university system over the past 600 years (Carter and Withrington, 1992).

The distinguishing characteristics of Scottish universities have been present from their origins and can be highlighted by comparison with the development of universities in England. From as early as the sixteenth century Scotland's universities were referred to in terms of their contribution to the needs of society and the nation.

In Scotland, the role of the state in supporting and intervening in public schooling was more naturally extended to the universities as the peak of the national education system and state intervention was seen as a right and a duty. By the time of a royal commission report in 1830 it was recognised that Scotland's universities were '*public institutions to be regulated together in the national and public interest*' (Carter and Withrington, 1992:4). This was significantly different from the situation in England where universities were highly independent, private institutions autonomous from the state and resisting of attempts at 'interference' by the state. Therefore, recognition of the importance of Scotland's universities to the well-being of the nation, their integration in the public education system and their role in serving the needs of the whole community reinforced their distinctive identities and projected the Scottish national identity.

From the outset Scotland's universities were structured differently from those in England. They were founded as single entities combining both college and university, and therefore the administration of the community of scholars and students in the college was combined with the degree awarding powers of the university. In England these two roles were divided and the early universities were in reality federations of colleges in which the colleges and the university had different roles and responsibilities. In addition, by the 19th century the requirement for students to be in residence had been relaxed in Scotland whilst it continued to be the dominant model for university study in England. Scotland's universities were also relatively poor in comparison to Oxford and Cambridge and this had two important outcomes. The first was a focus on government as a source of income and therefore sensitivity to the needs of government and preparedness and experience in working in partnership with national government. Secondly, it encouraged a focus on the needs of students and their parents who paid the tuition fees that supplemented the stipends of the professoriate. The distinction between the richly endowed opulence of Oxford and Cambridge and the functional buildings and basic accommodation of Scotland's universities has been observed, and the educational experience at Scotland's universities in their early years characterised as '*plain living and hard learning [for a] very wide social clientele*' (Carter and Withrington, 1992:5). The

development of Scotland's universities reflected the context and character of the nation. Throughout their development they have been able to sustain divergent policies in key areas including the four year degree, a broader curriculum, wider participation and a closer working relationship with the state. These represent differing policy approaches intended to meet different circumstances and have served to reflect and project Scotland's distinctive national identity. Universities therefore developed under the different conditions prevailing in Scotland and they reflected the distinctive Scottish identity such that:

It is plainly evident that Scottish universities can be said to constitute a recognisable 'system' of higher education; and that, certainly in comparison with England, that system was remarkably distinctive (Carter and Withrington, 1992:10).

The Policy Community in Scottish Universities

The idea of a policy community suggests individuals and organisations with an interest in a specific policy sector (Keating, 2005a). McPherson and Raab (1988) used the term 'policy community' to refer to the network of individuals including politicians, officials and those inside and outside government who worked together on the shaping of educational policy. I take policy community to be a reasonably close-knit network, but a network nonetheless, and recognise that some writers use the terms interchangeably.

One of the outcomes of the Scottish meritocratic system of education was a tendency to narrowness and replication among the members of the policy-making elites, and McPherson has drawn attention to the '*Kirriemuir career*' the '*symbolic world bounded by Angus, standing for the East and North and with Kirriemuir at its heart, by Dumfries in the South and, in the West by a Glasgow academy, perhaps The Academy*' (McPherson, 1983:228; McCrone, 2001:93). From this bounded social, religious and geographical area were drawn the majority of the education policy-making elites and the implications of this are now explored. Various writers have

observed the existence of influential policy communities in Scotland pre-devolution. For Moore and Booth, policy in Scotland is not merely the result of direction, neither is it a formulaic, impersonal, imposed process but the outcome of relationships between participants in the context of a sense of identity and interest distinct from that of the UK, and:

The most accurate analysis so far applied to the Scottish political process has been that of a series of 'policy networks'... (Moore and Booth, 1989:17).

Even while Scotland lacked political control there was still a considerable degree of autonomous decision-making and Scotland could be characterised as a series of policy networks operating in different areas and at different levels (Keating and Midwinter, 1983). In post-devolution Scotland with its greater scope for independent policy making, policy communities remain influential partly as a result of the political shift towards governance but also Keating (2005) suggests that as a result of Scottish Government departments previously being structured to adapt UK-wide policy rather than to create policy for Scotland this may serve to reinforce the importance of policy networks in policy formulation. McPherson and Raab (1988) noted the existence of policy communities in Scotland and concentrated on the education policy community which comprised:

A community of individuals who mattered; it was also the forum in which the interests of groups were represented, reconciled or rebuffed (McPherson and Raab, 1988:433).

This '*community*' includes government as well as a range of groups involved in the implementation of policy, and McCrone (2001) noted that '*the scale and administrative history of the country has made this form of governance particularly apt*' (McCrone, 2001:117). The implications for those involved in these close knit groups is argued to be profound by McPherson and Raab whose research suggested that '*the assumptive world of the educational policy community was deeply persuasive to those who shared in it*' (McPherson and Raab, 1988:499).

This has implications for the way policy relations are conducted and for policy outcomes. Even in pre-devolution Scotland, while not a separate political system but a form of administrative devolution, the pattern of policy networks that developed replicated and reinforced the values and culture of the elites involved in policy making and together with the network of institutions, interest groups and relationships influenced policy outcomes (Moore and Booth, 1989).

These communities were able to develop and operate because they had a considerable degree of autonomy within the British education system. This flowed from the Scottish Office having responsibility for a substantial amount of domestic administration in Scotland that in turn stimulated the development of a range of interest groups (Keating, 2005a:3). Scotland pre-devolution, at least in official accounts, could be said to have a tradition of widespread participation in decision making in relation to new policies in education underpinned by '*a belief in the efficacy of certain fundamental principles – notably, partnership, consultation and consensus*' (Humes, 2003:75). Kellas (1973, 1989) credited Scottish institutions with a high degree of autonomy and argued that when looking at policy making in practice the striking feature was the degree of autonomy Scotland had within a unitary and homogeneous British system of government. Paterson (1994) drew attention to Scotland's distinct civil society and policy networks, noting the example of education and argued that Scotland, compared with other small European nations, had a reasonable degree of effective autonomy. The operation of these policy communities has been characterised as a 'negotiated order'; a way, somewhere between corporatism and pluralism, in which Scottish networks were able to influence government policy and generate a form of autonomy in practice for Scotland. The Scottish policy community, mediated through the Scottish Office, therefore constituted a '*meso-level of the British state*' (Moore and Booth, 1989:150).

In general, policy-making in Scotland tended to proceed by consultation and consensus although this was challenged in the 1980s and 1990s by the UK government's gradual encroachment on Scottish civil society and the influence of

interest groups. However, one of the distinctive features of the Scottish higher education system remains its cohesiveness, partly as a consequence of the country's small size affecting the backgrounds, experience, relationships and behaviour of the policy communities (Caldwell, 2003:64) such that *'Scotland is a close-knit community where a high level of individual contact is possible'* and that *'this is a powerful phenomenon and seen as another significant difference from England'* (Moore and Booth, 1989:29). The education policy community has been drawn from those with similar backgrounds and experiences, produced by Scotland's education system, including its universities, and carrying and transmitting distinctive Scottish values and shared assumptions. They have constituted an influential voice within government and enjoyed relative autonomy within the UK system, and the contemporary cohesiveness and distinctiveness of the higher education system reflects their influence.

Indications of Growing Policy Divergence Post-Devolution

Universities in Scotland were brought under the Scottish Office in 1992 and *'although devolved, universities are part of a UK policy community as well as a Scottish one'* (Keating, 2005a:76). After 1992, when funding for Scottish universities was changed to be provided by block grant via the newly established Funding Council, differences began to appear in the methodology of allocating funds for teaching and research. However these changes were relatively minor and within the UK policy was made for the sector as a whole. This position has been significantly changed by devolution (Jeffrey, 2009). The issue of student finance proved to be the first example of policy divergence under the new Parliament in which the decision was taken that Scottish students would not be required to pay fees for university undergraduate courses as in England. Instead the Scottish Parliament opted for, in effect, a graduate tax that would create a fund to provide grants to encourage those from low-income families into higher education.

In 2007, the incoming nationalist (SNP) administration removed the need for students make any financial contribution to the cost of undergraduate education by

revoking student payments to the Graduate Endowment Fund. This policy was in contrast to preference in England for tuition fees and at a time when there is pressure to remove the 'cap' on tuition fees in England and allow universities to charge higher differential fees. The new Scottish Government has been willing to develop policies appropriate to the Scottish context, reflecting Scotland's pragmatic interests as well as its values and traditions, but also in furtherance of an SNP political agenda as it seeks to create a 'vision' of what an independent Scotland might look like, and draws on education as an important contributor since, as has been observed:

Education policy is a key area for the SNP because it combines a central focus on the economy with well-established, if implicit, ideas of national identity (Arnott and Ozga, 2009:8).

In addition to recognising and managing the political realities of coalition government, the Scottish Government has demonstrated that education is an important political issue and that it is prepared to follow a different set of underlying values to those prevalent in England when setting education strategy.

These differences may be reflected in different traditions in HE (civic, democratic). Since devolution, Scotland can be seen to have pursued a more traditional form of social democracy with ideas of universalism, egalitarianism and partnership with professionals in the public sector: '*a shared project that is social democratic with a Scottish accent*' (Arnott and Ozga, 2009:6) in contrast to market mechanisms and a consumerist orientation to the public services in England. The Scottish Government has pursued policies that prioritise consensus and uniformity, and it has acknowledged and worked with professional communities and leadership. In higher education, for example, '*Scotland has rejected the idea of elite universities and differential fees, and has distributed research funding more evenly*' (Keating, 2005a:171). In addition to observation of differing policy outputs, there is also some evidence for different attitudes to educational policy between Scotland and England. This includes more Scots favouring further expansion of higher education than in England, and more Scots in favour of state support for students. The partial re-introduction of means-tested grants and the rejection of up-front tuition fees for

payments towards a Graduate Endowment Fund can be seen not as addressing *'distinctive Scottish concerns [but] common British concerns in a distinctively Scottish way'* (Paterson *et al.*, 2001:148).

Differences have also been found in attitudes between academics in England and Scotland, with those in Scotland favouring more 'civic engagement', a role for universities in economic development and a strong commitment to providing leadership in Scotland. Academics in Scotland were more likely to take on public roles and there was less suspicion of the government role in education. They were also more likely to be in favour of a public role for universities than those working in England, reinforcing the tradition of the democratic intellect (Paterson, 2003). In England, these views tended to be found only in the newer universities and, even then, they were less pronounced than throughout the whole of the sector in Scotland. This draws attention to the issue of the relationship of policy communities in Scotland to UK policy communities. In terms of university research, for example, Scotland operates within the UK policy arena and Scottish universities remain within the UK-wide Research Assessment Exercise. However, they do so under the aegis of the SFC which receives its funding from, and answers to, the Scottish Government. They also organise their representation and collective voice at the Scottish level in the form of Universities Scotland as well as participating in Universities UK. Both Universities Scotland and SFC have powerful Research Committees drawn from the sector and established to consider the Scottish sector's research interests. The networking of individuals and organisations to the rest of the UK therefore remains strong, however this has not prevented instances such as tuition fees where policy outcomes have been distinct and divergent from those in England (Keating, 2005a).

There still remain sufficient similarities to be able to talk of a UK system of higher education, however, with Ministerial guidance coming from different ministers and different administrations *'what devolution has done is to increase the likelihood that some differences will arise'* (Caldwell, 2003:69).

Challenges in the External Environment

Publicly funded university systems globally are confronted with the issue of increasing numbers of students, rapidly rising costs and severe constraints on funding provided by the state. Research-intensive universities face the additional challenge of maintaining international research competitiveness when the levels of infrastructure and operating costs required particularly in the sciences are increasing dramatically (Keating, 2005b). The result is that there are many competing claims on scarce resources and pressure to find solutions to enable the individual institution and the whole system to achieve its goals. This is an important point in relation to research pooling policy in Scotland. The UK government and the Scottish Government face the same challenges posed by changes in the global economy, the development of knowledge economies and knowledge societies and the need to be internationally competitive in the high value areas such as research. They were also concerned with how to allocate scarce resources to maintain and enhance internationally competitive research. The 2003 UK White Paper, *The Future of Higher Education*, suggested that in England the preferred solution for sustaining and developing internationally competitive research would involve concentration of resource in a small number of universities and departments where there already existed world-leading research. Faced with the same challenges and goals, Scotland opted for a strategy involving widespread collaboration across the whole sector rather than concentration of resources. The policy came to be referred to as '*Enhancing research competitiveness through the pooling of research resources*' (SHEFC, HE/31/04, 2004) or, simply, Research Pooling. In this, we can see a policy outcome that reflects the devolved nature of higher education within the UK and the post-devolution ability of Scotland to respond to a range of pressures at the global, European, UK and Scottish levels, and to do so in a creative and innovative way that reflects the historical, political and cultural context of Scotland.

Having framed the issue and drawn out some of the important respects in which there are historical and growing differences between Scotland and its HE system and the rest of the UK, the following section takes this discussion forward and introduces the concept of research pooling in detail, examining the landscape, how it works, what

are the key policies that provided a context for Research Pooling and who are the key actors.

The Development of Research Pooling

In this section I firstly present a summary of the key elements of research pooling and describe how the policy developed and grew across disciplines. The significance of external policy pressures and strategic developments in science policy in Europe and Scotland is then explored, placing that specific debate in the context of a discussion of the character of the Scottish universities, and in the context of a wider debate about the character of the relationship between education and policy-making in Scotland. This is necessary in order to explain why and how pooling developed in the way that it did, as it highlights the shared understandings of the role of the universities in the wider community that may have contributed to the shaping of pooling policy.

Research pooling refers to the SFC policy of encouraging large-scale research collaborations between universities in Scotland involving ‘pooling’ of research staff and physical resources in order to collaborate on common research agendas (SHEFC, HE/31/04, 2004). The intention is to create the critical mass required, especially in some areas of science, to compete with the leading research groups in the UK and internationally. Research pools are described as ‘*selectively inclusive*’, that is, open to all institutions with appropriately qualified researchers (SHEFC, HE/2003/MIN5, 2003). Research pools are established under the auspices of, and part-funded by, the SFC through its enhancing research competitiveness scheme, an element of the Strategic Research Development Grant (SHEFC, HE/16/04, 2004). The HE sector in Scotland and SHEFC had been giving serious consideration to the issue of Scotland’s research competitiveness following the results of the Research Assessment Exercise in 2001. This included, for example, the documents and discussions around ‘*The Scottish Higher Education Research Base*’ (SHEFC, 2001) and ‘*The Role and Effectiveness of Research in Scottish Universities*’ (SHEFC and Boulton, 2002). SHEFC’s 2001 analysis of the research base identified a number of generic issues

including a lack of critical mass of researchers in some areas, and a lack of collaboration, leadership and investment in infrastructure. It noted suggestions for improvements made by contributors to the study including '*HEIs sharing or pooling resources*' and it identified the scale of the country, proximity of institutions, strong national identity and experience of collaboration in the sector as strengths that could be drawn upon to make pooling a workable arrangement (SHEFC, 2001). In strategy discussions at SHEFC to consider the paper on '*The Role and Effectiveness of Research in Scottish Universities*' the issue of *how* to capitalise on a perceived need for collaboration was raised:

Scotland has considerable potential to develop a common agenda and to pursue it through strategic alliances, collaboration and efficient use of expensive or scarce resources. SHEFC has encouraged this, but neither SHEFC nor other bodies have found or created effective mechanisms to exploit it, apart from the general encouragement for collaboration in RDG bids (SHEFC HE/RPAC/02/14, 2002).

This acknowledged the view in Scotland that its higher education sector had a potential competitive advantage in collaboration, and established that the central issue was not lack of awareness but that more needed to be done to find, or create, an 'effective mechanism' to convert Scotland's potential into actual change.

In January 2003 the UK government, through the Department for Education and Skills (DfES), published the White Paper '*The Future of Higher Education*'. This Paper was considered by SHEFC at its Research Policy Advisory Committee (RPAC) meeting in April 2003 and then by the SHEFC Council at its June 2003 meeting, and it provided the impetus required to develop an 'effective mechanism'. RPAC identified a potential threat to Scotland's research competitiveness in the possible '*drift of research funding in England to research intensive institutions*' leading to a '*potential decline in attractiveness to top researchers; and the potential longer term implications for the knowledge driven economy in Scotland*'. It advised the Council that the implications of the White Paper amounted to '*an urgent and immediate problem*' (SHEFC, HE/RPAC/03/19, 2003). The SHEFC Council considered the implications of the White Paper and '*viewed this concentration of*

research resources to a few leading institutions in the south-east of England with concern'. The Council expressed the view that Scotland *'should seek to maintain and develop centres of research excellence able to compete with the best in the UK and further afield'* and that: *'to achieve this, a considerably greater degree of collaboration between institutions would be necessary'* (SHEFC, HE/2003/MIN4, 2003).

In August 2003, the SHEFC Council considered a paper from its Executive on *'Strengthening the Competitiveness of Basic Research'*. The paper set out two main options: concentrating resources in *'one "world-class" university'* which it suggested was *'not attractive, being both risky and highly divisive'* or pooling resources to *'reinforce Scottish strengths wherever possible'* (SHEFC, HE/2003/41, 2003). It then set out a strategy for pooling. The Council had already identified pooling as its preferred strategy at its June 2003 meeting *'as the most effective approach to strengthening Scottish research'*. It now heard that informal discussions with universities had been encouraging, and stressed that for pooling to be successful it would need the backing of institutions and would need to *'win wide support from the academic community at the earliest opportunity'*. The Council commented on the need for sensitivity in handling the matter and that *'it would be important that any new pooling arrangements are not, nor perceived to be, SHEFC imposed'*. It asked its Executive to raise the proposals with Universities Scotland *'to open up a dialogue with the whole sector'* (SHEFC, HE/2003/MIN5, 2003). In a later communication to the sector it was reported by SHEFC that *'considerable agreement has emerged in discussions with the sector'* including that objectives for the research pools should include the need to be owned by the participating institutions and driven by their strategic priorities; that the pools should be visible entities with which industry could engage and that they should *'result in a sustainable step change improvement to the Scottish elements of the UK research base'* (SHEFC, HE/31/04 Annex). The potential benefits outlined for pooling included enhancing Scotland's ability to attract leading international researchers and to provide improved opportunities for research careers to develop. The possible benefits also included enabling *'research direction and investment in facilities to be planned and coordinated at a national*

level within broad discipline areas' and make possible longer term strategic planning and foresight processes (SHEFC, HE/31/04 Annex).

SHEFC announced in November 2004 that the first instances of the new research pooling policy were to be chemistry and physics. In chemistry, ScotChem would be the umbrella body for EastChem (Edinburgh and St Andrews universities) and WestChem (Glasgow and Strathclyde universities) that were separate research pools. In physics, the Scottish Universities Physics Alliance (SUPA) involved six universities, Edinburgh, Glasgow, Heriot Watt, Paisley, St Andrews and Strathclyde. The new pools would involve 180 chemistry researchers and their teams and 200 physicists and their research groups. The total investment was reported to be £37 million over four years provided by SHEFC, the universities involved and (for the first pools) the UK Office of Science and Technology. In announcing the new research pooling policy the SHEFC Chief Executive noted that:

Research is an increasingly fierce competition on an international stage, that the pools: developed by researchers themselves, show how well Scotland can respond to and maintain and enhance its leading position... and that the aim: is to develop a distinctive, radically new research landscape in Scotland with powerful well-resourced research communities, attractive to leading researchers around the world, and producing world-class research (SHEFC, PRHE/06/04, 2004)

The Deputy First Minister and Minister for Lifelong Learning observed that *'the competitiveness of our research is fundamental to our efforts to build a flourishing knowledge economy...'* and said he believed that *'the research pooling agenda is one of the most exciting developments in the research landscape'*, that he had been *'encouraged by the enthusiasm for the research pooling concept from the "bottom up"'* and that it *'demonstrates that a real pioneering spirit is out there'* (SHEFC, PRHE/06/04, 2004).

The chemistry and physics announcements were followed in 2005 by the announcement of a £24 million investment in an Engineering and Mathematics research pool, the Edinburgh Research Partnership (ERPEN). In 2006 a £22 million

investment was announced for a Geosciences research pool, the Scottish Alliance for Geoscience, Environment and Society (SAGES) and £21 million for an Economics pool, the Scottish Institute for Research in Economics (SIRE). In 2007 a research pool for Life Sciences was created, the Scottish Universities Life Sciences Alliance (SULSA) with a planned £77 million investment, a Medical Imaging pool, the Scottish Imaging Network: A Platform for Scientific Excellence (SINAPSE) was also created with £41 million, as was an engineering pool, the Scottish Research Partnership in Engineering (SRPE) with £129 million (SFC, SFC/07/55, 2007; Kitagawa, 2009). As at July 2008, in excess of £300 million has been committed to research pooling arrangements and more research pools are under consideration including informatics and computer science, clinical research and marine sciences (Gani, 2008). SFC itself has invested more than £100 million (SFC, SFC/07/55, 2007) in the policy intended to:

Encourage greater collaboration between networks of researchers across institutions, pooling resources to reinforce Scottish strengths wherever possible and creating critical mass in key areas to ensure that Scotland maintains its internationally competitive edge (Scottish Executive, 2006:31).

The following section sets research pooling in the context of the university sector, actors and policy influences at the time of its development.

The Higher Education 'Policyscape' in Scotland

The Universities

There are 14 universities in Scotland educating 240,000 students (SFC, 2006). They are the product of three main periods of university creation. The first four 'ancient' universities, Aberdeen, Glasgow, Edinburgh and St Andrews were founded in the fifteenth and sixteenth centuries. A further four universities, Dundee, Heriot-Watt, Stirling and Strathclyde were created in the post-Robbins expansion of UK higher education in the 1960s. A further five universities, Abertay, Glasgow Caledonian, Napier, Paisley and Robert Gordon were created in the early 1990s when Central Institutions achieved university status, and more recently Queen Margaret College

achieved University College status. There is considerable diversity among institutions in the sector in terms of mission, size, activities, and particularly research capability. The pre-1992 universities are characterised by strong research capability, for example, in 2002-3 the SHEFC grant allocation to the eight pre-1992 universities based on the results of RAE 2001 accounted for 93% of the available funds. Within this nearly 50% of the total was allocated to two universities, Glasgow and Edinburgh. Nevertheless, research is central to the mission of all universities in Scotland and to the identity of academics. While research output is dominated by a few universities in Scotland it is also the case that high quality research of national and international importance is undertaken at universities throughout Scotland. This tends to be by smaller numbers of academics working in highly focused and frequently new research areas, and in the case of the post-1992 universities there is a strong focus on the provision of applied research and vocational education. (Caldwell, 2003)

The Scottish universities are part of a larger Scottish higher education system that includes colleges providing higher education, The Open University in Scotland and The UHI Millennium Institute. Following the merger of SHEFC and SFEFC, universities are now part of a unified further and higher education sector administered by a single funding body, the Scottish Higher and Further Education Funding Council (SFC). Given the context of diversity the higher education sector is relatively cohesive. Whilst cohesiveness in the sector is partly accounted for by common features of Scottish higher education including the four year degree, a broadly based curriculum and a high participation rate (Caldwell, 2003) it is also a consequence of size and geography. Scotland is a relatively small country and institutions tend to be grouped around a few major cities. Most universities are within a few hours travelling of each other, a number are within minutes. This makes frequent contact and interaction possible and the relatively small number of institutions means that it is possible for representatives of all institutions to meet round the table. In contrast, in England with 133 higher education institutions (92 university institutions) spread over a wider geographic area it is difficult to achieve

comparable levels of interaction, or to build and maintain similarly close working relationships.

The Scottish Funding Council (SFC)

The SFC is a Non-Departmental Public Body (NDPB), and therefore an arm's length agency of the Scottish Government. Its main responsibilities include the development and implementation of sector-wide policy and strategy and the distribution of public funds for teaching, learning, research and other activities. The SFC was created by The Further and Higher Education (Scotland) Act 2005 to replace the Scottish Higher Education Funding Council (SHEFC) and the Scottish Further Education Funding Council (SFEFC) by a single body with responsibility for Scotland's university and college sector. It distributes over £1.6 billion of public funds on behalf of the Scottish Government (SFC website, 2008). The Council's members are appointed by the First Minister and it has a number of specialist committees to advise it, including a Research and Knowledge Transfer Committee. The membership of the committees draws in experts and professionals from the sector and wider society with relevant specialist knowledge. The Executive of the Council is structured into 6 Directorates one of which is the Research Policy and Strategy Directorate.

The Council's vision sets colleges and universities in the context of the life, economy and ambitions of Scotland and includes the intention to create:

A more dynamic, entrepreneurial and internationally competitive Scotland... whose colleges and universities are world-class contributors to economic, social and cultural development' (SFC, 2006:2).

In order to operationalise this, the Council has 7 fundamental aims of which the creation and maintenance of 'internationally competitive research' is one and this requires that Scotland's universities provide a high quality and internationally competitive research base. In helping universities to sustain and develop their research capability the SFC is, and SHEFC was, able to operate with a degree of independence from Ministers and as a 'buffer' between universities and direct

political intervention. This is because NDPBs have a degree of separation from government departments, and while Ministers are ultimately accountable, bodies such as SFC operate at arm's length. They are established by statute specifically to carry out administrative, commercial, executive or regulatory functions on behalf of government and provide specialist advice to Ministers and others (source: scotland.gov.uk website).

Discussions between the sector, individual institutions and the SFC are continuous. However, each year SFC receives a 'Letter of Guidance' from the responsible Minister advising on forthcoming levels of funding and indicating the Government's strategic priorities for the sector. SFC in turn issues 'Grant Letters' allocating funds to institutions together with specific targets intended to operationalise the Government's priorities. Being responsible for a smaller sector than in England, SFC and its predecessor SHEFC have taken the opportunity to develop close relationships with institutions although Keating notes that *'the latter have generally sought to keep SHEFC at arms length'* (Keating, 2005a:181). SFC funding supports research infrastructure (salaries, buildings etc.) and supports basic research and the training of new researchers. The majority of SFC research funds are distributed selectively on the basis of quality as measured by the periodic UK-wide Research Assessment Exercise.

Scottish Government (Scottish Executive)

Devolution in 1999 brought the HE sector under the aegis of the Scottish Parliament and therefore the Scottish Government *'but the universities remained part of a UK-wide policy community'* (Keating, 2005a:179). The Scottish universities had experience of operating in a combined Scottish and UK education system where differences and tensions existed but there was sufficient perception of common cause for there to exist both a Scottish system and a UK system of which the Scottish system was an integral part. Scottish universities had been operating under a devolved Scottish Higher Education Funding Council since the 1980s. The sector is now the direct responsibility of the Scottish Government under the Cabinet Secretary for Education and Lifelong Learning. The Government sets out its broad policy

objectives in relation to higher education and these are communicated annually to the Scottish Funding Council in a Letter of Guidance. It is then the responsibility of the SFC to allocate funding and to develop sector-wide strategies to deliver the Government's objectives.

University research is a concurrent, or shared, power in that some aspects are devolved and others are reserved under the Scotland Act (1998). The SFC, and the Scottish Higher Education Funding Council before it, provides the funds for research infrastructure and special initiatives and this is the responsibility of the Scottish Government. The UK Research Councils fund specific projects and are reserved i.e. accountable to the UK Government (Science Strategy for Scotland, 2001:8). At the time of the development of research pooling strategy, the Scottish Government (then the Scottish Executive) aligned higher education (and further education) with enterprise in a joint department under a Minister for Enterprise and Lifelong Learning. This organisational structure differed from the Westminster model of a Department responsible for all levels of education, and had the effect of making explicit that one of the key purposes of universities was to contribute to Scotland's economic performance. The linkages created were intended to assist universities to work more closely with industry and Scottish Enterprise. The Scottish Nationalist controlled Government in 2007, separated higher education from enterprise and realigned it organisationally in a department with responsibility for all levels of education.

Government policy in post-devolution Scotland has tended to diverge from England and whereas the English model has prioritised management, regulation, differentiation and competition, the Scottish policy approach has been more receptive to professional autonomy, consensus, and egalitarianism. Keating (2005a) notes that policy in England has been politically driven whereas in Scotland it has tended to emerge from professional networks working in partnership with government. Whilst policy has often been set in England by a politicised agenda, the Scottish policy community has been able to amend policy or vary its implementation to take account of Scotland's different circumstances and develop solutions

appropriate to the Scottish context. For example, Keating observes a general resistance to the idea of elite universities and a tendency to avoid concentrating resources in any one place in favour of trying to achieve high standards by stimulating collaboration among institutions (Keating, 2005a). Nevertheless, at the level of policy development there are close connections between higher education policy makers in England and Scotland, and the UK policy community remains relatively open with individuals working across different levels. An example of this complex governance arrangement occurs in the collective representation of universities which, for Scottish universities, occurs at both UK national and Scottish levels.

The universities in Scotland have their own representative body, Universities Scotland (US) which is one of three national councils of Universities UK (UUK), the representative body for member institutions across the UK. UUK exists to 'advance the interests of universities' and US provides a forum for considering issues from the perspective of Scottish universities and ensuring that the interests of Scottish universities are advocated. As a membership organisation comprising autonomous institutions neither US nor UUK have power to impose decisions or set strategy. However they provide a forum for debate, for the development of policy, for sharing best practice and for coordinating the voice of universities in discussions with government and funding councils. Universities Scotland has an elected Convenor who is also a Vice-President of Universities UK. The main committee's deliberations are informed by the work of various sub-committees, including one focusing on research and commercialisation which was influential in aligning support for research pooling within the sector. Following devolution, the Scottish Government prioritised science and research in Scotland and established the Scottish Science Advisory Committee (SSAC) as an independent committee under the auspices of the Royal Society of Edinburgh and funded by the Scottish Government. It provides advice to Ministers on science strategy and its main reporting line at the time of the development of research pooling was to the Minister for Enterprise and Lifelong Learning. The Committee interacts with a range of other bodies including, SFC, Universities Scotland, Scottish Enterprise, Highlands and Islands Enterprise and the

Scottish Agricultural and Biological Research Institutes (SABRIs). Its membership comprises representatives of the public and private science community in Scotland to create the environment in which *'by its nature, the SSAC is well linked into the wider scientific community such that it can receive a good range of "bottom-up" inputs'* (SSAC, 2004:10). The remit of SSAC ensured that its views on research pooling were important. The first SSAC report was in development at the same time as research pooling was being formulated and came to similar conclusions as to the way forward.

Key Policy Documents Providing a Context for Research Pooling

Science Strategy for Scotland

The Science Strategy for Scotland, published in August 2001, was the Scottish Government's first such strategy and its origins can be traced in the Government's document *Working Together for Scotland – A Programme for Government* (2001). That document committed the Government to developing a 'comprehensive science strategy'. A Review Group was established and its report led to the development of the Science Strategy. The strategy was also located in the context of helping to achieve the goal of developing Scotland's knowledge economy and therefore contribute to other strategic policies including, for example, *A Smart Successful Scotland: Ambitions for the Enterprise Network*. It led to the establishment of a Scottish Science Advisory Committee to advise the Government on strategic issues. The strategy connected science and university research to the performance of the Scottish economy arguing that it made a major contribution to the achievement of economic objectives.

Even with its distinctive features, the Scottish system is highly integrated into the UK system as a whole. This point was reflected in the Science Strategy for Scotland when it argued that *'the importance of ensuring that Scottish science is fully linked with the UK, European and wider global activity cannot be overstated'* (Scottish Executive, 2001:16). The strategy adopted as its first objective, to *'maintain a strong science base fully connected to UK and international activity and funding sources'*

and in which high quality curiosity-driven research would be supported (Scottish Executive, 2001:4). The strategy reflected the nature of the Scottish economy in that there are difficulties for the business sector in attempting to make a significant contribution to underpinning the knowledge economy since the level of research investment by the commercial sector in Scotland is only 4% of the UK total (Scottish Executive, 2001:25; SSAC, 2004:27). In Scotland it is therefore essential that the universities make a substantial contribution to the knowledge economy through their research output. It is also arguable that attempting to drive research output by encouraging competition between universities tends not to 'take' in a system where the public sector dominates and universities are close to civil society. Therefore, post-devolution, Scotland was engaged in the development of policy that both recognised and reinforced its higher education sector as distinct from England. It was into this relatively new political environment that the UK government published its White Paper on the Future of Higher Education.

The White Paper on the Future of Higher Education

The wide-ranging White Paper published by the UK government in January 2003 contained proposals to allow universities to charge a contribution to the cost of the course of up to £3000; 'variable fees' which would be repaid by graduates once in employment. The Scottish Government however, '*as part of the second coalition agreement in 2003*' set itself against introducing '*top-up*' fees (Keating, 2005b:431) and made arrangements that students in Scotland would not have to pay them. This had the effect of creating concern in the sector that Scottish universities might fall behind their English counterparts in financial terms. The White Paper also contained commitments in relation to research investment in English institutions to '*invest even more in our very best research institutions*' and to '*make sure that the very best individual departments are not neglected, by making a clearer distinction between the strong and the strongest*' (DfES, 2003:23). The Paper also indicated the UK government's support for increased collaboration between universities however it left the mechanisms to be developed locally to suit individual circumstances and provided no strategic approach. The White Paper was, however, more prescriptive in its intended financial support for leading research departments and universities where

HEFCE was to be asked to identify *'the very best of the 5* departments'* to be termed 6* and to:

Provide additional resources to give them an uplift in funding over the next three years... adding: at subject level as well as at institutional level, it is critical that we focus our resources on the strongest, who bring us the best returns (DfES, 2003:30).

The effect of the White Paper in Scotland was firstly to create concern that universities in England would use the additional funds from higher fees to compete more aggressively in the market for students and staff and that Scottish universities would lose out. Secondly, for the research-intensive universities in Scotland, the Paper created the concern that if additional funds were to be directed to a few selected institutions in England this would increase their research capability significantly and once again Scottish universities would lose out by comparison (SHEFC, HE/2003/MIN4). The publication of the White Paper in relation to variable fees and additional research funding support for 6* departments and the thinking behind it was taken by the policy community in Scotland to constitute a significant threat. This may have been to an extent inevitable given the very anglo-centric nature of the White Paper and the ambiguity of higher education policy in the context of devolution. The Paper appeared to be written from a more overtly market oriented perspective that Keating describes as a continuation of *'the Conservative model of public service reform, based on differentiation, competition, selectivity and control through targets'* (Keating, 2005b:428). This policy preference seemed at odds in the more social democratic Scottish context (Arnott and Ozga, 2009) and it was open to the criticism that its research concentration proposals *'appeared inconsistent with the Government's regional policies encouraging economic growth and development across the country'* (SHEFC, HE/2003/MIN4). The Paper also failed to take account of the effect of its proposed changes on other parts of the UK higher education system that, while devolved, still considered itself to be, and acted, as a coherent system. Keating notes that *'there was some criticism of the lack of consultation with the Scottish Executive'* prior to publication, but that it is *'not easy to see a solution within the present settlement'* and consequently Scotland would *'need to cope with*

the fall-out from decisions in which they [had] not participated' (Keating, 2005b:434). Whilst acknowledging this, it nevertheless created the conditions in which the policy community in Scotland felt the need to respond to a perceived threat, and this was evident in the development of pooling and in related documents of that time including the first report of the Scottish Science Advisory Committee.

The Scottish Science Advisory Committee published its first report in January 2004. It identified Scotland's scientific capability as a strategic asset capable of delivering competitive advantage, and recommended that 'optimisation' of the science sector in Scotland should be a key component of the government policies and strategies. It then went further and recommended that the science base should be 'reshaped' along the lines of new integrated structures that could lead to the creation of centres of scientific excellence (SSAC, 2004). By this time the idea of research pooling was in development by SHEFC and the sector and the SSAC report facilitated and supported it by drawing attention to the potential value of strategic inter-institutional collaborations. It cited, for example, the Synergy partnership between Glasgow and Strathclyde universities, the National e-Science Centre involving departments of Edinburgh and Glasgow universities, and the strategic partnership between Dundee University and the Scottish Crop Research Institute involving co-location of research groups. The report argued that Scotland should take advantage of its scale and geography that led to the elements of its research base being within easy reach of each other in order to generate collective advantage. The report notes that the UK White Paper on higher education '*proposes that internationally-competitive research will be concentrated in up to five research-intensive institutions in England*' (SSAC, 2004:38). For SSAC a creative, innovative, solution was required in order to retain Scotland's competitiveness. It recognised that critical mass in research areas would be important but that in a context of scarce resources concentration should be on '*Scotland-wide partnerships, to bring the best and most appropriate groupings together to establish collective alliances*' (SSAC, 2004:37).

Summary

This section has developed the previous discussion on the processes of globalisation and the development of knowledge societies, and helps us understand these phenomena as generating travelling policies that impact on the academic community as well as on local policy-makers and to which they experience pressure to respond. Consideration of 'embedded' policy suggests that the responses of policy-makers are influenced by the specific political, cultural and historical context, and that policy actors exercise agency in formulating highly specific and contextualised policy responses that are 'workable' in their locale. The discussion then introduced academic culture and the workings of the academic community, particularly in relation to travelling policy agendas of modernisation and reform, managerialism, marketisation and performativity, and their perceived challenge to academic autonomy and academic culture generally. The importance of fundamental aspects of academic culture were presented including 'academic autonomy', the idea of a 'republic of scholars', the powerful influence on academics of the 'invisible college', the existence of academic 'tribes' and their socialisation within a 'defining community' that the concept of 'habitus' suggests generates dispositions and beliefs that provide the 'feel for the game'. The section then introduced the key contextual elements of the Scottish 'policyscape' (Appadurai, 1996) as they relate to research pooling. It was in the interaction of academic culture and the policy environment, within global pressures, policies and the local context, that research pooling policy developed and it is important to note the creative and innovative potential, and the opportunities for new ideas and reforms within the policy community as a consequence of the interaction of travelling and embedded policy.

Chapter Three

Research Methodology

Section 1: Conceptual and Theoretical Approach

I approached the research methodology by reviewing selected literature that offered conceptual and theoretical resources appropriate to understanding the research issue. There were two key resources that were adopted in pursuit of my research objective and these are addressed in the introduction to this section.

The first set of theoretical resources relates to policy networks. Here I draw on the recent extensive literature that identifies networks as a key form of modernised governance (Richardson, 2000). Networks are replacing hierarchies in the new context of globalised policy making, in higher education as well as across the policy spectrum. As suggested in chapter two (p.9), networks enable more 'dynamic interaction' (Papadakis and Tsakanika 2006:291) between different system actors. They also attract participants with different interests and engage them in collective problem solving, which is reflected in the increasing embeddedness of network forms in research and innovation policy and practice (Henkel 2005:160). Research pooling is one such network, and I draw on the characteristics of network governance as defined in the literature: for example what has been referred to as their 'soft' power (Lawn and Lingard, 2002) through which individuals are drawn in to the policy process while at the same time the processes of interaction, joint problem solving and negotiation contribute towards building shared understanding and practices among the different interests involved. This collective identification with the network is important in understanding how networks 'govern' various interests without the need for top-down hierarchy. By drawing people into the process, networks also have the effect of lessening resistance to policy initiatives, and building commitment to change. It is also well established in the literature that networks require high levels of trust in order to work well, and that this has to be maintained by constant reinforcement of good relations within the network (Kisby, 2007).

Thus the conceptualisation of research pooling as a network form was highly significant in shaping the enquiry, as I was able to focus on what my informants revealed about patterns of interaction, levels of trust, orientation to problem solving, and working across interests and hierarchies. This is an explicit expression of the principle of choice in policy research (Seddon, 1996): it obviously rules out other, equally valid choices, however it is made explicitly with the intention of focusing the enquiry and analysis on a key dimension of the conceptual approach to the analysis of pooling.

The second and connected issue relates to the understanding of evidence. In choosing to conceptualise research pooling as a network, I prioritised certain key issues in my collection and analysis of evidence. The object of the investigation was a network of key actors, who provided accounts of the genesis and production of the policy development of pooling. I therefore focused in the data collection on eliciting these accounts, and in the analysis on highlighting the operation of key features of networks in action. In order to find out how the pooling network operates I was therefore exploring the practices and experience of individuals in the network, as they presented them to me. However, as Bryman (1988:74) suggests *'it would be a very strange subject which simply projected subjects' perspectives without any analysis or wider orientation'* and analytically, my ideas about networks and governance derived from the literature provide a lens that makes sense of the data generated through the interview process. Because I understood networks as governance, I was aware of issues of powerful actors presenting themselves in particular ways (Ball, 1994) and was able to 'read' the interviews through the lenses provided by perspectives on researching the powerful (Walford, 1994).

Issues of Reliability

The issue of reliability relates to the points made above. I do not claim that this analysis is the only possible account of research pooling, but it is an account that is compatible with and supported by the key concepts that frame the study. The

theorisation of networks in the policy literature (see, for example, Marsh, 2000; Marsh and Smith, 2001) provided the theoretical and conceptual lens through which data analysis was made possible, and a robust and scientifically-defensible perspective on research pooling as a network developed and illustrated.

Justification for Selections Made for Interviewing

The selection of interests and individuals for interview flowed from my research question and the requirement to understand how the network operated from within, bringing to the fore the experience, practices and 'assumptive worlds' of those most closely involved in the development of research pooling policy. Analysis of documents provided details of the main interests and individuals involved from the earliest stages of the process, and this was cross-checked with information from interviewees in the pilot interviews and confirmed as the main interviews progressed. This enabled me to identify a core group of institutions and individuals comprising the SFC, four research-intensive institutions, the relevant government department and Minister, the academics involved in one of the first research pools and two influential sector bodies. My interviewees were drawn from these interests and were in the main the individuals responsible for the development of research pooling policy. During the process of identifying and selecting interviewees I was aware that I was making choices that would have a bearing on the character of my study. In particular, the views of those not involved in the policy process were excluded in order to retain focus on the experience of the network.

In the rest of this chapter I aim to make clear the methodology and methods I used to explore research pooling in a global, political and cultural context and illuminate the processes by which the policy was formulated and brought to implementation since, as Gale observes, policy researchers do not approach their research with 'blank slates' but with a theoretical perspective that provides a lens through which observations are made and data collected and analysed (Gale, 2001:384). My approach attempted to move beyond the '*commentary and critique*' noted by Ball as too prevalent in policy research (Ball, 1990:9) and to avoid an '*apparently objective*'

account of research pooling that might flow from a managerialist perspective (Gale, 2001:380). The approach followed is from the perspective of policy sociology *'rooted in the social science tradition, historically informed and drawing on qualitative and illuminative techniques'* (Ozga, 1987:144). It is informed by the interest of sociology in the functioning of the social world, in particular the relationship between the personal and the public (Mills, 1959:8). The research also drew on two key perspectives that were carried forward from the literature, and are now explored.

Governance and Policy Networks

The first perspective concerned governance and networks, and reflects my assumption that policy-making in higher education is an inherently political process (eg. Ball, 1990), and that where government lacks visibility in the policy process, as *prima facie* it did in pooling, then accounting for it simply as a sector initiative in which government played little part appeared insufficient and invited further inquiry. It seemed inattentive to the way that approaches to government are changing in western democracies, as they increasingly seek to draw people into the process of government through networks that enable their involvement and participation in the policy-making process, at the same time engendering consent and compliance. I was also influenced by an approach to understanding this form of 'network governance', the policy network approach, that developed to explain new ways in which policy was being made in the changing circumstances and new patterns of governance in recent decades (Atkinson and Coleman, 1992; Richardson, 2000). It attempts to take account of the informal, decentralised and horizontal relations inherent in these new forms of governance (Kenis and Schneider, 1991). Network governance has been observed in Scotland where it has been described as 'associative governance' (Brown, 2001) and connects both to aspirations of the post-devolution Scottish Government to develop new forms of governance and policy-making that emphasise inclusiveness, consensus and power sharing, and to a longer history of working relationships between 'government' and policy networks in Scotland under pre-devolution administrative decentralisation (Moore and Booth, 1989). An account of

pooling in which government is absent also seems to fail to recognise that pooling developed within an overall context of globalisation and the growth of global knowledge societies and that governments are alert to the need to stimulate and support the production of world-class research as a basis for international competitiveness. Giddens (1998:33) stresses that globalization is *'more than just the backdrop to contemporary policies: taken as a whole, globalization is transforming the institutions of the societies in which we live'* and governments are connected to this process. Henry, Lingard *et al.* (2000) also note that in the context of global change, it is possible to see policy at the national level being re-positioned and reconfigured, and Ozga draws attention to this process at work: *'globalization is understood to be shaping education policy by driving the modernization agenda: in particular it tightens the bonds between education and the economy'* (2005b:208). One of my assumptions approaching the research was that the presence and participation of governments may be central to the impact of these global forces on local policy, and the role of network governance required explanation. The research therefore set out to explore the role of governance and networks in the development of research pooling.

The Role of the Policy Community in Scotland

The second perspective carried forward from the literature concerned the role of the policy community in Scotland. This reflects my assumption that there were aspects of the operation of the policy community that were important to bring pooling into being and that had the community failed to act in these ways then the policy may not have developed as quickly as it did or with such widespread support and it is conceivable that the initiative might have stalled. Dorey defines a policy community as:

A close and relatively closed relationship between a group of policy actors in a particular subsystem, usually based around a government department and its 'client' organized interest(s), who work closely together in developing and implementing public policy (Dorey, 2005:287).

This offers a relevant description of the actors in higher education policy in Scotland. Dorey goes on to make the point that *'policy communities tend to foster relative policy continuity, with significant policy change occurring only rarely...'* (2005:287) a point also made by Jordan and Richardson: *'groups will share an interest in the avoidance of sudden policy change'* (1982:93-4), by Heintz and Jenkins-Smith: *'the interaction between coalitions is continual and typically leads to incremental policy changes'* (1988:267) and Rhodes and Marsh, who conclude that policy networks: *'are conservative in their impact because, for example, the rules of the game and access favour established interests'* (1992:200). This seems to reinforce the possible impact of the way policy communities operate on the policy outcome, and in particular is relevant to the question of why and how the higher education policy community acted to produce an innovative and radical policy outcome.

The second of the two key perspectives also recognises that research pooling emerged in Scotland rather than anywhere else, that it is distinctive and stands in contrast to the model pursued in England, and therefore prompts consideration of whether the political, cultural or historical context of post-devolution Scotland may be important. Davie (1961) draws attention to the importance of the idea of democratic intellectualism in Scotland and I felt that the linking of egalitarianism and meritocracy that it encapsulates might provide some purchase on understanding an education policy that developed in Scotland. Research suggests there is some substance to the democratic myths of Scotland (Anderson, 1991:12) and Paterson's research confirms the existence of some distinctive values in Scotland underpinning democratic intellectualism (Paterson, 2003). Heintz and Jenkins-Smith (1988) introduce the notion of ideology, or beliefs about how the world should be arranged, as impacting on public policy outcomes. This directs attention to research pooling policy occurring within the context of sets of beliefs: that actors come to share *'a deep core of fundamental normative and ontological axioms'* and from these a *'core of basic strategies and policy positions'* (Sabatier, 1993:30). The implication of this is that there may have been a core belief system that was sufficiently influential that it created shared assumptions and certainty about what would be appropriate for Scotland's research community and to enhance Scotland's research base. The study

therefore set out to explore whether and how aspects of the Scottish policy context may have influenced the development of research pooling policy.

The Relationship of Power and Policy Networks

By focusing on these key perspectives I am also making assumptions about power and its relationship to policy-making. The concept of power is held to be integral to human agency and consequently is a force associated with change, the '*transformative capacity*' of actors identified by Giddens (1976:110). In this it is interlinked with policy-making and policy communities, as McPherson and Raab observe '*policy-making is an aspect of power...*' (1988:5). For Rhodes '*power-dependence is a central feature of policy networks*' (1997:11) and therefore, as Atkinson and Coleman suggest, policy networks are useful in exploring how power is exercised and whose interests are being served (Atkinson and Coleman, 1992:154). Therefore, with the growth of 'governance' and 'networks' over 'government' and overt hierarchical power, I felt that questions should be addressed of how change is brought about, what the role of power is and how it is manifested in the policy-making process. Foucault argued that power '*is tolerable only on condition that it mask a substantial part of itself. Its success is proportional to its ability to hide its own mechanisms*' (Foucault, 1980 [1976]:86). Given conditions of network governance I felt that it would be necessary to look at the role of government in policy networks and how networks may disguise power flows or, to look at this from another point of view, whether networks offer opportunities for 'democratised' policy-making. Dahl's (1958) suggestion that power is widely, though unequally, distributed among different groups and that no group is without power to influence decision making is important and it invited inquiry into the way research pooling policy developed and the roles and relative influence of participant individuals and bodies. These aspects of governance, networks, policy communities and power connect over the issue of the impact of new forms of governance on power relations, particularly whether and how power relations accommodate changing circumstances yet remain relatively intact. The concept of 'resources' are connected to power and it is argued that:

Policy-making presupposes power, in the sense that in policy domains agents need to mobilise resources in order to be able to act and intervene (Arts and Van Tatenhove, 2004:346).

This '*capacity of agents to achieve outcomes...*' (Giddens, 1984) seemed to me to offer linkages between the operation of the policy community, resources, power and policy outcomes and was therefore a key strand of the research.

Methodological Orientation

In approaching my area of research my starting point was that there is a fundamental difference between the subject matter of social research, people and their social reality, and that of the natural sciences, in that '*human beings are both the subject and the object of inquiry*' (Hughes and Sharrock, 1997:101). I therefore rejected positivist research models, as did Duke, as being '*of limited use in the investigation of contemporary policy*' (Duke, 2002:42). Quantitative approaches provide important descriptive data, however, they typically are less well suited than qualitative approaches when attempting to access meanings, leading to the situation in which '*we may know what happens, but not in intersubjective terms why*' (Pollitt *et al.*, 1992:58). My choice of methodology reflects an interpretive stance in that I accept my interviewees' 'narratives' as revealing their subjective understanding. These understandings are not taken to be 'truth' since:

According to hermeneutics there is no 'truth' behind a performance, nor is there an original version against which a reproduction must be compared... 'truth' is bound up with images and performance (Ezzy, 2002:24).

This is inherent in the social world and it is one of the key distinguishing features between social and natural sciences that people think, reflect, understand, explain and take action, suggesting that: '*human activity is not behaviour (an adaptation to material conditions), but an expression of meaning that humans give (via language) to their conduct*' (Johnson *et al.*, 1990:14). The world is interpreted, and by ascribing

meaning people produce social life and the social world they inhabit, selecting and interpreting proceedings and behaviour, as Schutz observed:

The social reality, has a specific meaning and relevance structure for the human beings living, acting and thinking therein. By a series of commonsense constructs they have preselected and preinterpreted this world they experience as the reality of their daily lives (Schutz, 1963:234).

As a consequence of the observation that: *'unlike physical phenomena, social actors give meaning to themselves, to others and to the social environments in which they live'* it is necessary that the research data *'must derive in some way from the lives of the social actors being studied'* (Hughes and Sharrock, 1997:104). It is therefore by engaging with the subject matter, rather than distancing ourselves from it, by being at the centre of the research process and by applying the theory and practice of interpretation that it is possible to develop our understanding of the social world.

The interpretivist approach must, however, take account of the partiality or incompleteness of people's knowledge, and while the approach involves a *'commitment to explicating the subject's interpretation of social reality'* (Bryman, 1988:72) I also accept that social research must involve more than simply a collection of people's observations since *'it would be a very strange subject which simply projected subjects' perspectives without any analysis or wider orientation'* (Bryman, 1988:74). This recognises the involvement of the researcher as a co-producer in the process of knowledge production; that the perspectives and perceptions of the researcher interact with those of the subject and consequently *'hermeneutics emphasises that the interpretive process is centrally about the tension between one's own perspective and the perspective of the other person'* (Ezzy, 2002:26-27). Denzin describes the process of attempting to resolve this tension as one of engaging in a double hermeneutic circle in which:

The subject who tells a self-story or personal experience story is, of course, at the centre of the life that is told about. The researcher who reads and interprets a self-story is at the centre of his or her

interpretation of that story. Two interpretive structures thus interact (Denzin, 2002:354).

This process is necessarily iterative as the researcher engages with the subject and seeks to develop a better understanding and account of what is going on, since the 'facts' do not speak for themselves. Instead the 'facts' can be thought of as 'first order concepts', descriptions of the phenomenon being studied: *'the situationally, historically and biographically mediated interpretations used by members of the organisation to account for a descriptive property'* (Van Maanen, 2002:104). In the interpretive approach these interact with 'second order concepts' that can be thought of as theories, concepts or beliefs the researcher uses to attempt to organise and explain the 'facts', thus creating *'interpretations of interpretations'* (Van Maanen, 2002:104). Through this interactive process the researcher seeks to provide an interpretation that *'must illuminate or bring alive what is being studied'* (Denzin, 2002:362). However, in this interactive process in which the researcher interprets the subject, the researcher must be alert to the issue of bias, not necessarily in the sense that it can be eliminated but in recognising that it exists and being attentive to its effects, making its presence clear, and being open to other interpretations:

The important thing is to be aware of one's own bias, so that the text can present itself in all its otherness and thus assert its own truth against one's own fore-meanings (Gadamer, 1975:269).

Denzin makes the argument that rich, 'thick' data from the world of lived experience is the necessary material for interpretive research, and that illuminating the phenomenon:

Can occur only when the interpretation is based on materials that come from the world of lived experience... interpretations are built up out of events and experiences that are described in detail. Thickly contextualised materials are dense. They record experience as it occurs. They locate experience in social situations. They record thoughts, meanings, emotions and actions. They speak from the subject's point of view (Denzin, 2002:362).

By accessing this rich data source in the form of narratives, the research sets out to understand the meaning of participants' accounts in their own terms (Janesick, 2003). However I did not approach these accounts naively, but in the knowledge that people use narrative as a way of presenting themselves and possibly protecting themselves, safeguarding or advancing their positions through presentation. In that sense, I was aware that I was being told 'stories' and my interviewees also understood this, for example:

Does any one person ever actually know everything? You see, I don't know, but I don't think they do because people put their own interpretation on things and I think that's fine. And people have preconceived ideas or they have perceptions of what's going on, but you colour that with your own judgement of what you thought was going on at the time, and so that's bound to be the case... Of course they interpret to suit the facts as they know them, but also what they want to believe (A3).

I suspect actually what you might well find is this is a bit like these radio plays occasionally where you see the same events through the eyes of six people and everyone claims to have invented it [research pooling]. I'm sure you'll probably find several people who claim to have invented it (S3).

As a result of my theoretical positioning I 'read' the narratives gained in the research with attention to how they protect and defend particular relations of power, acknowledging the influence on interviewees of framing identities as academics and policy makers.

Interviewing the Powerful

Those most closely involved in the development of research pooling occupied leadership roles in universities at institutional and subject levels, the funding council, government and other higher education bodies, and consequently my interviewees were individuals in powerful positions. There are issues associated with interviewing 'elite' groups: 'those with close proximity to power or policymaking' (Lilleker, 2003:207) which are relevant to this study and require to be explored. A way into

these is through reflection on my own position in relation to this group that derives from my work role, and the benefits and drawbacks arising. In this regard the idea of being an 'insider' in which *'researchers are researching organisations, situations and groups of which they themselves are a part'* (Hannabuss, 2000:99) or an 'outsider', lacking such memberships and associations, is useful. As a consequence of my work role at a university involved in the development of research pooling I could be considered an insider in some senses and instances, however as Hockey observes: *'this insider/outsider (or auto-ethnography/ethnography) dimension is best seen as a continuum rather than a rigid dichotomy'* (Hockey, 1993:201). Merton argues that researchers, as all individuals, have a *'status set'* (Merton, 1972:22) that is likely to vary according to different situations, to the extent that *'in structural terms, we are all, of course, both Insiders and Outsiders, members of some groups and, sometimes derivatively, not of others...'* (Merton, 1972:22). I found there to be different influences on my degree of *'insiderness / outsiderness'* that affected where I would be positioned. The focus of my research was a policy that, although my institution was involved in, was developed within the higher education policy community, and to that extent largely external to the institution, involving other institutions, organisations and bodies. Consequently I was not an insider in relation to the process of policy development, nor to the other specific institutions and groups. Nevertheless my role within a higher education institution clearly suggests insider status within the higher education community, and moreover the job that I do is of a type that interviewees were certainly familiar with, had experience of dealing with, and could therefore position in the structure and hierarchy of higher education institutions. Therefore on the 'continuum' I appeared to be very much an insider within my own institution, less so with other institutions and organisations, yet always recognised as being a member of the higher education community, and this was within the overall context that I was external to the process that led to the policy I was researching. There are advantages to the privileged position of being in some senses an insider. Duke suggests that *'access is sometimes easier for researchers who have existing links with those in power'* (Duke, 2002:45) and to an extent that facilitated the process. However, I found it to be of greater assistance that I had an insider researcher's detailed knowledge and intuitive understanding of the context,

the situation, language, relationships and practices such that:

The researcher knows his/her environment well, knows by instinct what can be done... just when and where to meet up for interviews, what the power structures and the moral mazes and subtexts of the company are... They are familiar with the organisational culture, the routines and the scripts... (Hannabuss, 2000:103) and therefore 'understand what counts in these settings' (Duke, 2002:45).

This understanding of the culture, issues, language, nuances, references and people, helped establish credibility and a measure of parity and facilitated the generation of rich data in interviews. This was important given the observation of Heclo and Wildavsky that:

The moment the interviewer shows unfamiliarity with the subject (though why else would they be there?), he will begin to feel himself on the smooth slipway to the outer office. Ministers and officials need to be reassured that they are talking to fellow insiders who will understand what is being said (Heclo and Wildavsky, 1974:xviii).

The shared knowledge and language helped to create a 'high level of empathy with the groups interviewed...' (Platt, 1981:86) and it also offers the potential advantage that the insider researcher 'is able to appreciate the full complexity of the social world at hand. The result is a potentially accurate portrayal, rather than a simplistic caricature' (Hockey, 1993:205).

Occupying a position as an insider however can also be problematic and contain risks. There is the possibility that being acquainted with the situation, issue or people could lead to missing something important because the researcher is too close. For this reason:

The main problem once access is gained by the insider researcher is, simply put, to make the familiar strange; to maintain enough distance so as to ensure that the analytical half of the insider/outsider coin operates effectively (Hockey, 1993:208, emphasis in original).

I found this to be applicable both in terms of my own approach to the research where

I needed to be attentive to the risks of coming to see things in the interviewee's terms. However, it was also applicable to helping make the 'familiar, unfamiliar' for the interviewees who had lived the experience of developing the policy and had thought deeply about it but not necessarily from a sociological perspective. Therefore issues of cultural, political and historical context, and how the policy community operated, provided new ways of thinking about the process interviewees had been through. Being to an extent an insider also has implications for relationships with interviewees that began before the research and will carry on after it. Platt suggests that the orthodox view of the researcher – interviewer relationship:

Assumes that they are for practical purposes anonymous to each other and that they do not belong to the same groups and will not meet again, so that the relationship has no past and no future, and the research roles are (or should be) segregated from all other roles (Platt, 1981:75).

This is not the case for an insider researcher and I was aware that impressions would be formed of me through the interview process by what Platt terms '*a significant reference group*' (Platt, 1981:77) and that therefore '*how the interviewer interviews is crucial*' (Hockey, 1993:214). However, the comment of Gewirtz and Ozga was pertinent when they noted that '*there is a tendency to overestimate the difficulties associated with researching the powerful...*' (Gewirtz and Ozga, 1994:194). 'Elite' interviews however do present a number of challenges. The interviewees are articulate, fluent, used to being interviewed and to presenting information and themselves. Research pooling was a policy they had been deeply involved in and it was of interest to them. This tended to result in interviewees producing a seamless narrative that added to the complexity of interpreting the data. Interviewees seldom restricted themselves to the question, but dealt with many issues, points of view and arguments in their contributions and consequently relevant data on a particular issue may be distributed throughout the narrative. The narrative however is produced in an interactive setting and is not a pre-existing entity that the researcher accesses: '*rather, interviews are places where meanings, interpretations and narratives are co-constructed*' (Ezzy, 2002:100) therefore the influence of the interviewer on the narrative must be taken into account. In addition to individual narratives there is also

a sense in which the interviewees together produce a collective narrative of the development of research pooling, emphasising or omitting different points, contradictory in places, varying as to detail and strategic breadth and borne out of different perspectives, roles, responsibilities and involvement in the process, yet also recognisable as describing the development of research pooling, the challenges and the processes, and conveying a sense of the dynamism and excitement involved in creating something new. By using a methodology that enabled the actors to 'speak' I set out, following Denzin, to combine '*thick description*' in which '*the voices, feelings, actions, and meanings of interacting individuals are heard*' (Denzin, 1989:83) with the analysis and wider orientation suggested by Bryman (1988:74) in a hermeneutic analysis in which the interpretations of the interviewee and interviewer are '*repeatedly interwoven until a sophisticated understanding is developed*' (Ezzy, 2002:25).

Section 2: Research Methods

In choosing my research methods I was conscious of the need to ensure they were consistent with my fundamental research question: '*how can research pooling policy be understood?*' and with an overall approach in which:

Interpretive researchers assume that reality as we can know it is construed intrasubjectively and intersubjectively through the meanings and understandings garnered from our social world. There can be no understanding without interpretation. We are always embedded in the lifeworld of language and sociohistorical understanding without recourse to some outside point of view, or Archimedean standpoint from which to gain objectivity on a world that is external to us (Angen, 2000:385).

I therefore selected qualitative research methods as being suited to eliciting the meanings of actors and since: '*reality is at least partly socially constructed by people who are living it... The meanings held by actors regarding their actions, whether latent or explicit, are primary*' (Riehl, 2001:117). I took the view that this necessitated that I acknowledge and work with my presence as researcher in the research process as I was central to a process of what Geertz (1973:9) described as

creating '*our own constructions of other people's constructions*' (quoted in Riehl, 2001:117).

Interviews

The research design I chose involved interviews with those closely involved in the development of research pooling. These were individuals who '*were considered to belong to a central core of influence in the policy process*' (Duke, 2002:43). In this way it was intended to illuminate the policy process and gain some insight into the workings and '*assumptive worlds*' of the policy community that otherwise would not be visible: '*the activities that take place out of the public or media gaze, behind closed doors*' (Lilleker, 2003:208).

The first decisions concerned selecting who should be interviewed and how many interviews would be necessary to answer my research questions and develop the understandings required. I thought it important to reflect the perceptions and experiences of the different groups of interest involved in order to obtain a holistic view of the process and to be able to assess these data in relation to each other as a means of cross-checking and also building understanding of network relationships. My purposive sample (May, 2001:95) therefore represented government (3), the SFC (4), the key universities involved (4), one of the first research pools (3), and the perspective of other influential bodies within the HE sector (2). Sixteen interviewees participated in the study and the interviews were carried out between March and August 2007. The list of institutions and the job titles of participants at the time of their involvement in the development process is given in Appendix III. Twelve of the interviews were held in the interviewee's office and four in meeting rooms at my university. There appeared to be no difference in either interview dynamic or 'quality' of data.

Semi-structured interviews involving a schedule of open-ended questions (Appendix II) were used in order to provide an overall structure to the interview and ensure that similar information was elicited from each interviewee yet at the same time this

created the space for individuals to develop a narrative and it also enabled me to probe and explore within broad areas. The schedule of questions varied slightly according to the role and involvement of the interviewee in the policy process, and that also enabled me to reflect the different perspectives of, for example, a government minister and an academic responsible for a subject area.

Data was recorded throughout all interviews and a transcribed text was produced by a commercial transcription organisation. The transcriptions were checked against the recorded data and errors, which were mostly misspellings, corrected. Written notes were made during the interview covering what seemed at the time to be major points, or data that contradicted or confirmed those from other interviews. Prior to the interview process, when conducting background interviews, I twice experimented with interviewing without recording, relying on notes made during the interview, and found the process unsatisfactory. Even a few minutes after the interview it proved difficult to recall enough of what the interviewee had said over a period of an hour to generate useable data. The result was thin and partial, and since it consisted of my recollections I felt that it risked conflating first and second order concepts, forcing out the voice of the actors, and did not allow me to think deeply about what had been said or consider it in the light of other data, relate it to the literature or to wider contextual issues. I felt that such data lacked the rich description that interpretive research benefits from and would lose immediacy and the sense of being a first hand account. Recording would enable me to listen repeatedly, not only to what was said but to *how* it was said: '*the emphasis, uncertainty and manner*' (Seldon and Pappworth, 1983:71). In addition, the approach of posing a question and then immediately having to switch attention from the interviewee to write notes would also have adversely affected the dynamic of the interview and hampered the development of rapport.

Document Analysis

I used document analysis firstly to gain an initial understanding of research pooling and then, since documents are social products for collective production and

consumption (Prior, 2003), as the research progressed I read and re-read the documentary material in the light of the interview data and it helped me better understand aspects of both the interview data and the documentary material itself. The key source of official documents was the Scottish Funding Council agendas, minutes, papers and official communications. Other documents of interest included letters of Ministerial guidance issued by the Scottish Government, and general reports and papers relating to higher education research in Scotland, the UK and Europe. Where relevant, presentations given by key individuals on the subject were also used as a data source. SFC minutes and papers had played an important part in stimulating my interest in research pooling as a subject for my thesis. As university director of communications, marketing and external affairs, I had been aware of research pooling since 2003 and was responsible for communication of the university's involvement in research pools including the first public announcements in November 2004. At that stage my professional interest in pools concerned positioning, branding, communication and relationship building issues between the university and each pool and between the partner universities involved in each pool. However, I also found the idea of pooling intriguing, particularly the issue of whose interests were being served, and I was interested in how it had come about. When thinking about a possible area of research for the Ed. D I had informal conversations with colleagues closely involved in pooling and also consulted the SFC papers. I was struck by the forceful language and apparent quickness of reaching a position expressed in the minutes of the Council meeting of 20 June 2003 when considering the implications of the English White Paper:

The Council viewed this concentration of research resources to a few leading institutions in the south-east of England with concern and that: Scotland should seek to maintain and develop centres of research excellence able to compete with the best in the UK and further afield. To achieve this, a considerably greater degree of collaboration between institutions would be necessary (SHEFC/HE/2003/MIN4).

I was also surprised that by the next meeting of the Council on 29 August 2003 the fundamentals of pooling had been established and actions agreed in order to proceed with the broad policy: 'at the 20 June meeting the Council also identified the pooling

of research resources as the most effective approach to strengthening Scottish research'. The minutes identified key areas for consideration including the support of academics, backing of institutions, shape and size, inclusiveness and timing, announcement and implementation and noted that:

Two basic elements seem fairly clear: - each research pool should be owned by the institutions participating in it and researchers should continue to be employed [by] their home institution; and – the pools should be selectively inclusive, that is, all institutions should be able to participate provided they have relevant researchers of an international calibre' (SHEFC/ HE/2003/MIN5).

In general, the formal minutes and papers were helpful and provided useful information about what decisions were taken and when, however, they provided little assistance in understanding *how* different interests were reconciled, decisions reached and strategies agreed. It was the desire to understand the 'how' that led to interviews as the main data source.

Negotiating Access

My experience of negotiating access to elite interviewees varied, and as Duke noted: *'gaining access to elites can be problematic as they have the power to create barriers, shield themselves from scrutiny and resist the intrusiveness of social research'* (Duke, 2002:45). I was, however, aided by being a part of one of the institutions involved in the development of pooling and agreement to be interviewed was readily granted by officers of that institution. Agreement to be interviewed was not restricted to members of my institution and the majority of other interviewees also consented immediately. The impression was never given that this was privileged access because of my role and membership of an institution. It was apparent that research pooling was of interest to those who had been involved in it and it seemed that interviewees would have been prepared to be interviewed by any researcher. Some interviewees wished more information before agreeing, and talking my research through with them over the telephone was usually sufficient to provide any reassurance needed and secure agreement. Other interviewees proved more difficult

to contact or to talk to, however once they understood the purpose of the research and had agreed they were then very generous with their time. Being an insider within HE proved to be of little use when potential interviewees declined to be interviewed. Three intended interviewees representing two organisations declined to take part in the study. One was a Scottish Government Minister who declined on the basis of not having access to the relevant papers. However, I had the participation of the relevant Minister in post as pooling developed and felt that was sufficient. Two members of a university declined to be interviewed on the basis that it was too soon for them to discuss pooling. This was compensated for by drawing on the experience of three other universities closely involved in the development of pooling and individuals who had been involved in the early meetings and discussions. I also had access to the public statements of all universities and their senior officers on pooling.

Preparing for Interviews

Prior to each interview I reviewed the relationship of the interviewee to the policy process, located their relationship to others involved in the process and attempted to view the policy process from their perspective. In doing so I followed the advice of Lilleker that:

One must ensure that one has as good a knowledge of the facts as is possible from existing primary and secondary sources, and one should have detailed knowledge of the interviewee, particularly their role within the event or activity being studied (Lilleker, 2003:12).

Having prepared in this way I then referred to my general interview guide (Appendix II) and developed this to reflect the interviewee's perspective and this enabled me to frame my general questions in the context of their experience.

Pilot Interviews

Two pilot interviews were carried out at the start of the research process and were useful in the following ways. Firstly, they allowed me to test views and assumptions that were beginning to form based on my initial document analysis and my own

professional knowledge and experience of pooling. Some of these assumptions found support, however, I learned that assumptions made at the very early stages of inquiry had to be treated with caution lest they direct or constrain ways of thinking about the 'case' or filter out data that did not appear to support those assumptions. An example of this arose in a pilot interview and concerned an assumption based on my initial reading of SFC minutes that the concept of pooling research resources had developed *in response* to the publication of the White Paper in England. This assumption was, in effect, limiting my search for other data that would have provided a different perspective. The pilot interview challenged this assumption and opened up the possibility that the idea of pooling resources had been in the sector for a number of years and the White Paper acted as a *catalyst*. This provided an interesting perspective on how the policy community was able to act so quickly. Secondly, the pilot interviews enabled me to determine through experience that I required interviews to be recorded in order to produce sufficiently rich data, and data that I could reflect on many times as the research progressed. The pilots also provided valuable experience of interviewing elite participants and experience of my own position as, in some senses, an insider researcher, and I carried this experience forward into the sixteen interviews that formed the main part of the study. Thomas observed that '*studies of elites raise questions about the researcher's identity, self-concept, and status*' (Thomas, 1995:7) and I found there was a tendency for interviewees to respond to me as a professional colleague. As a result, I learned through the pilot interviews that this required me to be attentive to my 'performance' as a researcher, and ensure through questioning, manner and body language that there was no confusion of roles.

Data Analysis

I approached the process of data analysis as one of craft (Mills, 1959:195; Mintzberg, 1987), involving: '*working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others*' (Bogdan and Biklen, 1982:145). I chose to work with verbatim text rather than summarising

or restating. This conveys a more immediate sense of the people involved, thought processes, involvement, and how they chose to tell the narrative of pooling and their role. We must bear in mind that the narrative is after the event and has to be recalled and spoken of in the light of other things that have happened in the interim. For example, I was mindful that the policy had got off to a good start, was considered successful and that the narrative of pooling was being constructed in the knowledge that it had been well received. However, I felt it was important to hear the actors speaking of their first hand involvement in the policy process. Their language is rich and reveals their feelings, relationships and meanings in a way that would be lost in a process of filtering. The image of a university '*nipping away with the ball up its jersey*' (I3) is evocative and conveys more feeling, insight and understanding than rendering it as for example: '*concerns were expressed that some institutions might exploit the situation to their advantage*'. Similarly, when trying to convey a process of significant change, the voice of an interviewee deeply involved gets across the sense of dynamism: '*it was just change, change, change, change, change and it was a very exciting period*' (A1).

Process of Analysis

I began by identifying the themes emerging from the data. This proved to be a difficult and time consuming process given the seamless nature of the data. It was frequently the case that individual sentences or short passages contained multiple conceptual categories.

This involved a physical process of reading transcripts, using different coloured highlighters to signify passages relating to major themes, for example, in relation to the interests of the individual and group, or to the perceptions of the policy's relationship to Scotland. Other factors, words and phrases were coded on the margin, for example, reference to an opportunity or threat, flexibility and whether top-down or bottom-up, factors that would suggest the possibility of other themes such as the relationship of the policy to the environment, innovative structures and how individuals and groups might be drawn into the process. The coding process was one

of identification and grouping of similar ideas, descriptions and activities in order to build understanding but also as a way of managing a large amount of data, 170,000 words in total.

The next stage involved extracting data 'chunks' that related to particular themes from the data generated by the sixteen interviews. These data chunks were aggregated and organised according to ideas, and these themes and these data sets were anonymised but coded in such a way that I could relate them back to the original interviewee. This second stage reduced the data to approximately 30,000 words. A third stage involved identifying data sets, phrases and sentences that seemed to make the point more precisely or more succinctly than other similar data sets. These were frequently selected as representative of a larger data set or point of view and were quoted verbatim to provide the 'voice' of those involved in the policy process. The overall process was one of *'pulling the data apart and putting them back together in more meaningful ways'* (Creswell, 2007:163).

Reflexivity

I agree with Creswell's view that *'no longer is it acceptable to be the omniscient, distanced qualitative writer'* (Creswell, 2007:178) and that my interpretations are affected by, for example, cultural, social and personal influences and since I *'shape the writing that emerges'* it is necessary that my influences and stances are made clear (Creswell, 2007:179). My career began in marketing in the private sector with multinational organisations in the manufacturing, retailing, professional services and consultancy industries, before moving to the public sector and higher education administration. I have experience in marketing and communications at director level and as a member of the senior management teams of an HEI, a new university, and now in my current role as director of communications, marketing and external affairs at a research-intensive university. In this role I work closely with academic colleagues and senior officers of the university, providing professional advice and support on communications, marketing and reputational issues, and participating in strategic and policy decisions. I strongly support the values of higher education and

academic inquiry, and recognise that I bring a professional management perspective to their advancement, and that this combination is also evident in my personal academic life as I hold both social science and business administration degrees. This combined interest can also be traced through the Ed. D to this policy study which is concerned with how higher education policy is formed and therefore with the governance or management of academic endeavour. Following Hammersley, I take the view that I inevitably have had a role in shaping and constituting the object of inquiry and therefore *'the researcher and researched are characterized as interdependent in the social research process'* (Henwood and Pidgeon, 1993:24). As a consequence my personal and professional experiences can be taken to have informed my approach to the study of this policy 'case' and my thesis should be approached with that knowledge.

Ethical Issues

Conducting qualitative research involving direct engagement with participants and the opportunity for insight and illumination is both rewarding and sensitive. Moving beyond simple exchanges of basic information in order to encourage interviewees to share thoughts, feelings and insights into their assumptive worlds requires the researcher to establish a trust relationship: *'if researchers wish to move beyond official representation, to find out how things actually are, then they will have to seek the trust of the individuals being interviewed'* (May, 2001:130). That trust relationship requires to be respected throughout the process, for as Stake observed: *'qualitative researchers are guests in the private spaces of the world. Their manners should be good and their code of ethics strict'* (Stake, 2003:154).

The ethical approach underpinning the research study was informed by the British Educational Research Association (BERA) Ethical Guidelines for Educational Research (2004) and by The University of Edinburgh College of Humanities and Social Science Code of Research Ethics (2005). Ethical Approval documentation was provided by the Moray House School of Education Ethics Committee and this research study was assessed as level 1 on the Moray House scale, indicating that

ethical concerns are towards the lower level and reflecting the involvement in the study of elite participants, familiar with being interviewed and with substantial knowledge of academic research processes. However, as Ezzy notes, while codes and procedures '*are useful safeguards against ethical misconduct, they do not ensure the ethical conduct of researchers in the field*' (Ezzy, 2002:52). For this reason, there were ethical areas that I was particularly concerned to address. The first arose because the policy community engaged in the development of research pooling was relatively small and I was concerned not to identify participants by name. I therefore anonymised the names of participants and removed references to named individuals, and where appropriate institutions, from data presented as quoted text. I secured the agreement of interviewees, however, to refer to their job title and institution. I feel that this position respects the issue of confidentiality yet also provides some reassurance to readers of my study on the provenance of the data.

The second issue related to information disclosed in the course of interviews where I felt there was a possibility that the comments made might compromise the person making them. Such instances were few and minor, and none related to my research interest and therefore the decision not to use such data was straightforward. However, it encouraged me to think through the issue of the consequences of my acts, and whether in this study there could be any justification for using such data and risking compromising a participant, addressing May's question: '*should the production of knowledge be pursued at any cost?*' (May, 2001:64). I settled on the view that, for this research study, it was difficult to envisage any possible overriding value that would suggest the ends justified the means. My attention was also directed to my insider status and to the possibility that some views might be being shared with me or shared in a way that they would not have been with an outsider. I came to understand this as a both an advantage and a disadvantage to having a dual role as an insider professional and an academic researcher. Thinking through these issues was valuable and helped me reflect on the dilemmas that arise in the close researcher – interviewee interaction.

Finally, I think it important to record that while I was generously supported by my university to undertake the Ed. D, the choice of research subject was mine and my research, as I expected it would be, was never treated as anything other than independent academic research.

Chapter Four

Discussion of Findings

Introduction

This thesis is focused on research pooling as a policy initiative in higher education in Scotland that warrants further examination because it is a highly *innovative* policy, introducing new relationships and patterns of working between university researchers and universities themselves. Pooling is also a *collaborative* policy development that looks somewhat at odds with the highly competitive and selective framing of policy for HE that has characterised developments across Europe and the UK in recent decades. Closer to home, it offers a particular contrast to the policy solutions addressing the challenge of developing and sustaining world-class university research in the global knowledge society that have been pursued in England. Finally, at this point (post-RAE 2008) it looks like that rare beast, a *successful* policy development, attracting widespread support from all the actors involved in its development and implementation.

In the thesis so far, the issue of research pooling in Scotland, and how we understand it, has been framed in a variety of ways. Firstly, I considered the growth of global agendas and pressures on universities, and then their closer and more explicit harnessing to knowledge economy and knowledge society priorities. Put briefly, the issue of research pooling was located within the globalisation of higher education, and the academic and policy literature that explores and illustrates pressures for convergence in university provision was discussed. Attention was also given to the role of competition in supporting competitive advantage, and to the emergent blocs of interest that attempted to consolidate advantage in specific regions, for example, the European Higher Education Area and the European Research Area. At the same time, this discussion raised the role of the nation state in providing universities and in ensuring that universities supported national competitive advantage. Thus, the tension and difficulty facing universities in competing nationally and globally was established as a backdrop to the pooling initiative.

Getting closer to the heart of the puzzle, the section on policy focused down on the specificities of the Scottish context. It attempted to identify those characteristics of Scottish HE policy-making and provision that might be said to have supported the development of pooling, whether these were 'structural' in terms of scale and proximity of policy-makers and institutions, or 'ideological' in terms of identification with public interest and public good agendas. It also drew attention to a history of relatively autonomous institutional practice (ie within the disciplines) but broad support in Scotland for 'national' interest. Coming into play here also is the context of post-devolution policy-making. Bringing these different elements together provides a narrative thread that links global, UK and Scottish developments together to provide some basis for explanation of the rapidity and success of the pooling policy. It is reasonable to suggest that the history and context of Scotland's universities and policy-making may be interpreted as exerting a strong influence over how policy for research pooling emerged and developed. The challenge for the empirical element of this thesis is to explore the extent to which my 'reading' from the literature is sustained or supported by the views of the main actors themselves. In order to test this, I needed to develop a methodology that allowed those actors to 'speak' for themselves.

In the following sections, I set out some excerpts from my very rich interview data. The primary research question was stated in the introduction to the thesis, however it is important to re-state at this point that the fundamental question my interviews addressed was *'how can research pooling policy be understood?'* This question relates to larger sets of issues about how policy is understood in HE in the current context. These questions are:

Firstly, how important is context in explaining policy in higher education in the present time?

From this, specific questions emerge, including:

- Was this a distinctive policy approach, influenced by the Scottish policy context?

- Was there a shared view about '*Scotland*' and Scotland's needs?
- Where did such a shared view of what was right for the sector in Scotland come from, and how was it sustained throughout the process?
- Did the political environment (devolution; Scotland within the UK and Europe) influence policy-making?

Secondly, who 'steered' policy in the current context of higher education, who had power, who mobilised resources, and how was this done?

From this, sub-questions emerge, including:

- How was the policy steered and moved forward in a 'conservative' policy community, how was such rapid and innovative development achieved?
- Who were the key actors: government, funding council, universities, managers or academics?

The data are therefore grouped to reflect these organising questions. Each quotation is assigned a code in the form of a letter and a number, and the code has a number of functions. The first is to enable me to track data back to the source, and the second is to provide the reader with an indication of the group of interests represented by the quotation, and this is indicated by the following letters: 'A' – academic; 'G' – Scottish Government; 'I' – university institutions; 'S' – Scottish Funding Council; and 'O' – other bodies (Universities Scotland, and the Scottish Science Advisory Committee). The numbers used refer to individual interviewees and are intended to serve a third function of providing the reader with a way of cross-referring and understanding the overall contributions made by interviewees. Data are not attributed to named individuals since the intention is to use quotations as indicative of interest groups and also to provide a measure of protection for interviewees.

Section 1: Context

The Importance of Context in Explaining HE Policy

The data suggest that context is a key factor in understanding and explaining research pooling policy. The differences between Scotland and England are frequently referenced in terms of size, scale, relationships, cultural values and politics. There is recognition of the need to compete in a global market and that the challenges and opportunities presented by the global knowledge economy are broadly similar for nations and that to respond will involve a strategy for developing and sustaining leading-edge research capable of feeding through to economic and social advancement. The data reveal concern in Scotland over the approach chosen by England to respond to these challenges, and that for Scottish universities under the control of the Scottish Government the preferred strategy for England was felt to be inappropriate in the Scottish context. Therefore, the strategy of increasing the concentration of research resources in a small number of elite institutions that was viewed as the preferred approach in England was immediately and explicitly rejected by the HE policy community in Scotland.

The data relating to the issue of context in Scotland may be considered in a number of interrelated ways. There is an important issue of physical scale and size that is obvious but also important: many of the key actors refer to the scale of operations in Scotland, and the related intimacy of relations. Intertwined with the scale is the idea of a shared narrative or 'imagined community' of the nation (Anderson, 2006) that provides an implicit script for the narrative unfolding here. In other words, some shared notion of 'common good' is heavily referenced, and undoubtedly acted as an inhibitor of competition or selectivity.

Actors representing a variety of interests and backgrounds (Government, SFC, universities, academics and other HE bodies) address these interconnected issues.

The Distinctiveness of the Policy Approach

I think it's Scottish because it has, sort of, real elements of egalitarianism. It also fits for a country of about the size of 5 million, in a country of 50 or 70 million 'Hey, let's get all the universities to work together on something' isn't a reasonable thing to say; a country of one million is only going to have one, as it were, so for a country of 5 million, we've got about the right number where the idea that the universities might all work together is, you know, it's not a crazy proposition (II).

The profile of universities and HEIs in Scotland is very different to that in England, and also the policy environment is different too. So what SHEFC were I think saying was that we had to have a model which really played to our strengths, which was inclusive, which allowed everyone who had something to bring to the competitiveness profile, access and involvement (S4).

The data consistently refer to the distinctiveness of Scotland in relation to England, and they do so in the language of the Scottish myth (McCrone, 2001): egalitarianism and meritocracy, inclusivity with the proviso that the individual has *something to bring*; that they merit inclusion. Policy is therefore required to be suited to the specific context of Scotland, to reflect its underlying values, to play to '*our strengths*' (S4).

There was also a feeling that scale was also important at the individual level, and that the relatively small size of the country encouraged the development of a network of close relationships, supporting Moore and Booth's (1989) observation of the importance of policy networks in understanding politics and policy in Scotland, and McPherson and Raab's (1983) 'community of individuals who mattered':

It's a commonplace that you can get all the people that matter in most subjects round a table this size in Scotland... so a feeling that Scotland is apt for making marriages and linkages and so on... the Minister gives a reception and you can get most of the people you want to talk to in that room. So that's fine. I mean the Kirking of the Parliament reception, you know, was a very nice example of that kind of Scotland because you couldn't move for people that you wanted to lobby, and vice versa (I3).

However, in a small country it is important not to become too inwardly focused and overly competitive amongst one another, and this insight provides an interesting context for a policy characterised by its outward looking focus:

There is always - and I think it's an important corrective - there's always 'A kent his faither' and a slight tendency to wrestle each other to the ground because we are Scots and we're not letting that other Scot away with it... it's very important to be prepared occasionally to try to find the compromise that avoids us just battling too hard, because we sometimes do it (I3).

Scale was also felt to affect working relationships and the way business is done in Scotland, enabling direct contact and encouraging informal communication, *ad hoc* conversations and social contact that helped create a close-knit community (Caldwell, 2003) that as Moore and Booth (1989:29-30) suggest was a '*powerful phenomenon*' and a '*significant difference from England*':

The reason it works in Scotland is a scale thing... in England, it's very, very unlikely that a head of a school of chemistry could speak directly to the head of research for HEFCE, he would just never get through to him. I could pick up the phone and talk to [the head of research for SFC] now... (A1).

One of the privileges I had, was I virtually knew every, I did know every, university Principal personally which was not something which my counterpart in Westminster, with the best will in the world, was able to do... in terms of policy-making, it's not necessarily formalised in that sense but you've got an engagement, you've got a relationship and you're constantly getting your ear bent and that's the nature of Scotland... that's the way Scotland works (G3).

The issue of scale was perceived to bring Scottish politicians into close contact with the HE sector in a way that would be difficult in England:

I think we are now, with the Scottish Parliament, in a much smaller country than the English Parliament. We are very much more exposed to that... [if a university] wrote a letter to the Secretary of State complaining that they were being cut out of research pooling you would get a letter back from somebody 15 down the scale. But if they wrote to

their local MSP, you'd be getting the Minister writing to [the chief executive of SFC] (I4).

Policy differences were observed between Scotland and England over the idea that some universities might be funded for research and some funded only for teaching:

The view of Ministers, which I certainly concurred and led, was in a country the size of Scotland it was very difficult to have two tiers of universities... there was no way as a matter of policy that I felt we could readily make that distinction in a country the size of Scotland... it was never really seriously considered that we would just concentrate on Glasgow, Edinburgh, Aberdeen, St Andrews, Dundee, it was not going to happen (G3).

This is a political view that the strategy discussed in England was not appropriate to the Scottish context. It was strongly held and no debate was invited. It is consistent with the view of the Funding Council (SHEFC/HE/2003/MIN4, 2003) and supports data that refer to the policy community's view that the strategy was politically unrealisable in Scotland and suggests their assumption was valid. There was also a feeling that policy differences reflected a particular way of thinking in Scotland that was important:

In recent years there's been quite a philosophical difference on education between DFES and what we've been doing in Scotland (G2).

It's (research pooling) not logistically difficult. Conceptually it might be difficult, but logistically it's not very difficult. So in that sense I think it is a Scottish solution and England have gone down a different road (G3).

Nevertheless, Scottish universities are also part of a UK policy network: how does that impact on Scottish policy-makers?

Subject slaps forehead at this point [laughter]. How does that affect us? Well, if I were to caricature it, it gives the universities the opportunity to have their cake and eat it because being the clever institutions that they are they can actually play both parts of the UK game (G2)

That's compounded by the fact that dialogue, and this is certainly not unique to Scotland as a devolved administration, that dialogue with Whitehall departments is difficult and it's patchy and very often we are inheriting decisions the day before they're made or, even worse, the day after they're made. And Scottish ministers aren't getting a proper opportunity to consider and have a dialogue with their UK counterparts where there are these crossed over and devolved and unreserved matters. And science is one of these areas, international is one of these other areas and higher education policy is devolved, obviously the universities are part of the UK wide system (G2).

It feels as if, from a policy point of view, as if we're standing with a foot on each of two boats that are gradually drifting farther apart, and that's not just as we in Scotland diversify our policy from the rest of the UK but also as the rest of the UK diversifies its policy from Scotland (G2).

There is a sense that there are opportunities presented by universities being embedded within a devolved Scotland yet also remaining part of a UK-wide policy community as noted by Keating (2005): that concurrent powers (Lyll, 2007) and different funding streams from separate governments are followed closely, particularly since there are different policy priorities and approaches emerging between Scotland and the rest of the UK. This policy divergence however also has the effect of making it easier to conceive of a distinct Scottish HE sector.

There was no model on which to draw for the strategy of nationally supported cross-institution collaborations at the subject level that characterised research pooling. The data suggest that it was the product of policy community thinking on how to continue to strengthen research at Scotland's institutions in order to maintain and develop their international competitiveness and at the same time respond to the threat of additional resources being made available to institutions in England. There is data to suggest an element of post-devolution HE policy drift between Scotland the rest of the UK (eg tuition fees) and the policy context, therefore, included recent experience of different policy approaches under devolution being made to work. The idea of research pooling was the product of brainstorming and 'original thought' developed by the policy community to meet their challenges in a way that responded to, and worked with, the grain of Scottish political, cultural and academic views. These views prioritised collaboration over competition but also involved a recalibration of

where the competition lay: that, as Carter and Withrington (1992) had argued, Scotland's universities, and the research carried out in them, constituted a national system and could be combined to compete more effectively with institutions in England and internationally by collaborating rather than competing with each other. This approach recognised that increased concentration of resources and moves towards a two tier system of universities in Scotland 'was not going to happen', that it would be politically divisive and in conflict with Scottish cultural values in relation to education of meritocracy and egalitarianism. The establishment of one of the key principles of research pooling as being 'selectively inclusive' is evidence of the influence of Scottish political preferences and cultural values – the policy context – on the policy development. The term expresses the critical balance between meritocracy and egalitarianism in Scotland and encapsulates the dynamic tension at the heart of Davie's (1961) concept of the democratic intellect; that opportunity is open to all, but only those with a certain standard of ability can access it. As well as being influenced by the policy context in Scotland in terms of constraints and values, it is also worth making the evident but significant point that it also developed *within* the policy context, that is within a policy community with certain characteristics including being relatively small, a close knit community with frequent interaction, close political links, and whose members have a high degree of autonomy.

Was there a shared view of 'Scotland' and Scotland's needs?

The data suggest that while respondents saw their actions as pragmatic and responding to a threat, they were also aware of distinctive Scottish values playing in the background, and the language and values of the Scottish myth (McCrone, 2001) found their way into the 'discourse' of research pooling:

There is a value system which is quite strong and which is distinctively Scottish... and there are elements of cultural underpinning... we didn't sit round the table saying 'Hey, Scotland's special, we've got a different view of universities, about what universities are for than in England' no, I mean, it was more pragmatic than that, but I think... there is a sort of way of thinking about education in Scotland, and university education in particular, which does suit this (II).

A key element of this distinctive cultural underpinning was perceived to be egalitarianism, as noted earlier: *'it's Scottish because it has, sort of, real elements of egalitarianism' (I1)* and *'we're more egalitarian, less elitist if you want to put it that way' (A1)*.

Scotland clearly has a propensity to collaborate... which I think comes about partly due to its sort of geography and intimacy and particularly the central belt being a kind of identifiable region with big institutions and ease of access, but I think the sense of identity is incredibly strong. If you propose a Scottish 'thing' people will cheer for it, they don't sneer. There's a very strong sense of, you know, 'this is Scotland' (S2).

Scottish policy makers and politicians believe in egalitarianism and the English believe in excellence. It was very obvious because Brown and Blair did talk about Britain's top universities... but you'd never have got Jack McConnell talking about Scotland's top universities, because that's not how we behave here (I2).

Consequently, there is a sense of Scottish identity being underpinned by different cultural values than England (Paterson, 2003a) and shaped by a distinctively Scottish frame of reference (McCrone, 2004), and these factors combined in such a way as to make collaboration easier in Scotland and provide a sense of a distinctive 'Scottish' educational identity. Values, identity and size engendered a sense of Scotland defending itself, of positioning England more clearly as a competitor:

Scale, identity, people know each other, intimacy. And where Scotland can clearly see itself as defending itself against England... I don't think England saw itself as defending itself against Scotland because of the mismatch in size. And I think there are other reasons why England finds it difficult to really collaborate: they don't have the same sense of identity and so on and so forth (S2).

However, as much as defending itself against England was the need to compete in the global knowledge economy and therefore strengthen the research base:

That coloured the whole thing. That's what it was about... the jewel in the crown in a sense, there was a lot of research going on and that was seen as key to future competitiveness (G1).

These factors had historically helped to create and sustain Scotland's sense of self within the UK, Europe and the larger world and increase awareness of the challenges in the global environment and the need to position Scotland as a significant centre of international research excellence. In addition, there is a strong sense of the need to respond to a perceived external threat, that is, the problem of competition within the UK for resources, through the RAE and other selective mechanisms (Tapper, 2007), and underlined by divergent policy on tuition fees. So we see an emergent sense of Scotland needing to raise its game, and anxiety about the historically significant 'other'. Interestingly, these extracts also reflect the continued referencing of an alternative Scottish way of doing things, or a tradition of excellence that is threatened, thus the sense of scale and the thread of references to egalitarian or democratic tradition are carried forward into the description of the threat from competition within the UK.

How Did Such a Shared View Come About?

As I understand it, the Scottish Executive and the Funding Councils were looking at how to make research areas stronger in Scotland. So if we go back to the 2001 RAE, for example, Scotland really had relatively few five star departments. And the question then was, well why was that the case? And I think part of this whole reason for pooling was how to increase the profile, increase the reputation, increase the standard of research being done in Scotland (A3).

Discussions of the need to improve Scotland's competitive position that followed the results of RAE 2001 were important in building consensus and shaping ideas:

[We] got together to talk in the wake of the last RAE and the tone of the discussion was one of... 'isn't it absolutely disgraceful that Scotland with all its tradition, with its great strengths in the financial services industry, doesn't have anything better than a grade 4 economics department...'? So there was a kind of, 'what on earth are we doing'? And is there an opportunity here to combine our resources?(I2).

If we combine the great strengths of Edinburgh and Dundee and Glasgow and Aberdeen, wouldn't we be completely unbeatable, you know, on a world scale? (I2).

The discussion was, just to take it at its face value, that there was a limited amount of resource, that there were a lot of good people, we could support things here and there, build it together in a way that enabled them to add value beyond what you could do in any individual place, and we didn't have the divisiveness of creating separate and isolated full scale teams. I find that a persuasive case and that was what we said we'd run with (I3).

There was a general sense that Scotland's research base was in need of improvement, and there was an outward looking focus to this that, if successful, Scotland's research would be very competitive internationally. This tends to support accounts of globalisation that emphasise the interrelationship between the local and global, for example McCrone's (2001:1) global and local being '*two sides of the same coin*': that global pressures to be competitive in the knowledge economy lead to '*local transformation*' in competitive ability and so to more intense global competition and greater pressures. This connects with Giddens' (1990:64) observation of local happenings being '*shaped by events occurring many miles away and vice versa*'. The strategy for doing so would need to take account of the particular Scottish context. It was also observed that this outward focus would require critical mass in the disciplines and in a small country it was not possible to have several centres of the necessary size. To select one, would be to leave others out, and this would be divisive. The question would need to be addressed of whether there was another way.

[Research pooling] had its roots in a number of ideas: the Scottish Executive's disposition to think that collaboration was a good thing, but I think more importantly the feeling within the sector that there were some activities for which critical mass was vitally important and... if you wanted to compete at international level then you had to have a critical mass that could not readily be achieved within a single university (O1).

The publication of the White Paper in England (DfES, 2003) together with the proposed introduction of top-up fees and public discussion in England of the

intention to put more resources into a small number of elite universities to sustain their world class research created serious concerns among institutions and policy makers in Scotland (SHEFC/HE/2003/MIN4, 2003):

This was at a time when, in the UK, Blair and Brown were talking about differentiation of universities and investing in excellence, and really beginning to identify University College, Imperial, Oxford, Cambridge and Manchester as our kind of elite... (I2).

We [Universities Scotland] were certainly less keen, and this applies not just in the sector but the Executive and the Funding Council as well, we were less keen on selectivity than in England. I think the argument is really ultimately about effectiveness and impact, and the belief in Scotland was that if we went very far down the selectivity route, it would undermine a lot of very good research... there was a feeling that the English policy was genuinely shortsighted (O1).

There was a perception that England was more comfortable with the concept of 'elite' institutions and the need to support to compete internationally. At the SFC:

I think it was well understood what the problems were, to do with the last RAE. [The SFC Research Director carried out an analysis] on why did Scotland not do as well in the last RAE as could be expected? And the answer was, that they were too small. It separated out that the average size of the departments was too small. That is what the paper said. But he knew that anyway, because he knew that from chemistry and physics (I4).

[We] started thinking what options do we have? And really it only boiled down to two. There was the English-style option which was to pour increasing amounts of money into a very small number of institutions... and that strategy didn't seem to have an awful lot going for it... politically probably impossible to deliver in Scotland (S2).

However it was clear that:

There were lots of very good strengths dotted around the Scottish research base and therefore that led naturally to the second option which is, is there some way that you could gather these strengths together? (S2).

Therefore research pooling *'was a neat way of getting collaboration going and trying to encourage excellence without having to distinguish between institutions'* (I2).

While there was a desire to enhance the research base brought into sharp focus by the RAE there was also a strong sense of a shared view on how to achieve this 'without having to distinguish between institutions'. The data suggest the importance of a shared set of values and beliefs, including: the 'deep, horizontal comradeship' of Anderson (2006) and McCrone's (2001) emphasis on the significance of 'community' in Scotland that lead to prioritising 'sharing' and 'fairness' over being seen to advantage some over others. The data also point to the influence of assumptive worlds (McPherson and Raab, 1988) of policy-makers in relation to research pooling, who were reluctant to pursue a strategy that might be seen as divisive or creating a two tier system.

How Was the Shared View Sustained Throughout the Process?

The data suggest that threats were perceived by actors and interests at different levels: academic, institutions and government, and that these tapped into acute awareness of and sensitivity to the challenges facing a small country and its universities attempting to compete in a global environment and confronting issues of scale, resources and critical mass. This reinforced the observation by Altbach (2004) that financial constraints on small countries served to create inequalities in global higher education. The threats were regarded as serious and the concept of research pooling provided ways in which the major interest groups in the policy community could take action to mitigate the threat they faced and at the same time advance their interests and strengthen their competitive position.

Compare us with a country of 5 million people in Europe. Just you go and look at the countries with 5 million people in Europe, and look at where their universities are on the international scale and you can see the problem we have. And, we've got to go up. We're trying to go up. We're not trying to go down. We're not trying to stay still. We're trying to go up, and we are going up (I4).

What gave all this a sense of urgency was the English white paper 'The Future of Higher Education in England' and that talked about strengthening research, greater selectivity, and was followed immediately by a round of funding allocations by the Higher Education Funding Council for England which for that year at least showed a marked increase in selectivity of funding, with a big increase for the golden triangle (S2).

This was seen as threatening, that if substantial additional funding was to be allocated to leading research universities in England, they would be in a position to attract the top researchers from Scottish universities *'and the danger that they would start head hunting for our best individuals and groups'* and this would be *'a much bigger kind of depredation than we'd previously experienced'* (S3). There was *'serious concern that the best bits of the Scottish research base would be kind of torn out by stronger competition from down south and that we would have no immediate response to that. So that was, I think, the real kind of wake-up call'* (S2).

Consequently the proposed developments in England were perceived as a serious threat to maintaining internationally competitive research in Scotland and served as a catalyst for pooling as a *'direct response to something we saw in England with the notion of going for a specific Scottish model'* (II).

I suppose, like any policy initiative we were responding to events, to some extent at least. I think there was always a general concern to strengthen and reinforce the Scottish research base where we could... that I guess is the underlying ever-present motivator (S2).

We as government wouldn't have said 'right, Edinburgh, Aberdeen, Glasgow, St Andrews, you're going to collaborate on medical pooling, okay, here's £1 million, go away and do it', because that just would not have happened. What I like to think happened is that there was a needs driven reaction by the universities that was saying 'we don't want to shut down physics departments, we don't want to shut down chemistry departments, how, in a pragmatic way, can we avoid doing that that actually at the same time enhances our research profiles?' (G2).

While acknowledging the limitations of government power in relation to academic and institutional autonomy, this latter data set contributes to understanding pooling

as a creative response to global pressures on public sector finances and the introduction of new managerialist and performative approaches (eg. Trowler, 2001; Webb, 1999; Deem and Brehony, 2005; Slaughter and Leslie, 1997) that cost and measure academic activities and present a threat to academic areas that cost more to run than the funding they receive.

Threats were also felt at the level of academic subjects both in terms of national and local developments. Academics were sensitive to the difficult position of some disciplines in the UK where, for example, financial pressures had led to closure of some chemistry departments.

Let's take protecting the discipline. This, I think, is particularly pertinent for Chemistry at the time, maybe not now, but a few years ago because we were in a regime when you probably will remember that King's College London closed Chemistry and Exeter closed Chemistry. Swansea closed their undergraduate degree programmes in Chemistry but they had some research, but once you don't teach you're not formally a department, you can do some research in it but people don't think of you as an independent Chemistry department. So, there were certainly worries about the discipline (A1).

I mean it very much has to be seen in the context of what was happening in England with places like Exeter closing, Kings College have closed, there were other problems, there were problems in Scotland, in other universities in Scotland, and so there was quite a high level of national interest in what was happening in chemistry and physics departments (A2).

Academics at the institutions involved in the EastChem chemistry research pool were also aware of the actions of chemistry departments in other universities in Scotland that they felt were a competitive threat. Glasgow and Strathclyde universities had a long-standing agreement (Synergy) that facilitated the institutions working together when it would be beneficial, and academics had 'heard rumours that Glasgow and Strathclyde universities in chemistry were applying to do some kind of merger... they were then going to ask SHEFC for funding... so we were sort of keeping an eye on that, and were a little bit anxious that money was going to be put into... Glasgow and Strathclyde' (A2). This is the kind of situation for which pooling has provided

an alternative - less local competitive behaviour, more collaboration and outward focus.

So, I guess I saw that as an opportunity and also a threat at the same time because I was aware that Glasgow were thinking about some kind of interaction and of course Glasgow made quite a lot of sense because Glasgow and Strathclyde have got this thing called Synergy and they've had it for a long time where if they can do things together they'll do it and it will be beneficial for them. And they saw an opportunity, therefore, of doing something in chemistry. So, there were two things prominent in my mind: one was the opportunity to do something for Edinburgh, and the other was the threat that a combined Glasgow/Strathclyde chemistry entity would pose to us if we didn't have an alternative to that (A1).

The necessity for large-scale investment in capital equipment to support leading edge research in the sciences had created the situation where small research groups found it difficult to justify the high levels of financial investment required. Therefore critical mass was cited as an important element of research strategy for the subject area and with the competitive threat defined as being outside Scotland, it was now possible that critical mass could be generated by collaboration rather than requiring absolute growth in numbers of staff at any single institution:

If there's going to be a massive piece of kit coming to Scotland it's only going to go to one place and if we're working together we're not competing with each other... we want to compete with the likes of Manchester, Oxford, Cambridge, we don't want to be competing with St Andrews (A1).

The real rivalry is perceived to be elsewhere... it's not even within Scotland... it's doing better than Bristol and Imperial and challenging the big chemistry departments in England, and of course further afield still (A2).

[We] talked to our universities, both of our universities were somewhat taken aback by it, but agreed to be supportive, and I suppose it took off very quickly from there... and because it was perceived to come from the bottom up rather than the university saying, 'you will do it' or 'you should do it', we'd actually initiated ourselves and said, 'we'd be better if we did do it'. But actually I think that negative initiation to it (concern over competitive threats) rapidly turned into feeling that we really could do something here (A2).

Context, then, has a historical and geographical basis: it has cultural meanings. However, while Scotland may be a 'transcendent idea' with historical continuity (McCrone, 2001) these meanings must connect to contemporary experiences, and consequently the importance also of a political element - devolution. This is productive for the policy, the context was in the process of change following devolution: the fact that this development took place in post-devolution UK is not coincidental. The new political relations within the UK meant that England was more obviously a competitor, and anxieties about a brain drain to the south were present. In addition, devolution revealed the system to itself in a new way: the universities in Scotland became 'Scottish' rather than UK institutions, and it was now possible to look at performance data across the national system and consider how best to improve.

The Influence of the Political Environment on Policy-Making

One of the interesting issues is the shift that took place between 1979 and 1999. In 1979 universities were reserved (for Westminster)... by 1999 there was no question of universities being reserved, there was a confidence, an internationalism, that no one ever really felt that we would turn in on ourselves if the Scottish Parliament had a responsibility for Higher Education. So does that reflect culture? I don't know (G3).

I think the experience of devolution has been generally very positive and that the Executive has generally had enlightened perceptions about the higher education sector's capabilities and of the contribution it can make to various policy priorities (O1).

The data suggest that devolution was perceived as being associated with culture change – more confident, less inwardly focused, less reliant on the UK government, with stronger feelings that Scotland can compete internationally, and that HE has a role to play in advancing this new vision of Scotland in the world (eg. Scottish Executive: A Science Strategy for Scotland, 2001). This resonates with Anderson's (2006) imagining the possibilities of the nation, and suggests that political devolution

provided more than a mechanism for enacting policy, it made possible new ways of thinking of Scotland's capabilities.

There was a feeling that there were differences in politics post-devolution, and that the Scottish Parliament behaves differently: *'There are some features of the system that are maybe a throwback to Westminster but I think the culture is very different'* (G3)... *'there is a very real dialogue internally about the feedback from consultation'* (G2) and *'we have twenty three ministers and deputy ministers out there day and daily spending Friday, Saturday, Sunday, Monday in their constituencies meeting people the length and breadth of Scottish life'* who then brought an understanding of a wide range of views to meetings with officials and therefore *'I think genuinely it means there is better quality thinking around the issues and what we should be doing coming from ministers'* (G2).

The [other] thing is parliamentary scrutiny which is very immediate, and the Scottish parliamentary committees have powers that the Westminster committees don't have, they can require ministers to give evidence... and the quality of the consideration and scrutiny by the Scottish parliamentary committees is getting much better. And that's healthy for the democratic process as well (G2).

Devolution created new political relations within the UK and established new political mechanisms for Scotland to pursue different policies (eg tuition fees). One effect of this was to enable England to be positioned more clearly as a competitor:

'Let's behave this way because we're in the new Scotland' that never even entered our minds. 'Let's behave like this in order to be better than the English' did enter our minds [laughter] (I2).

The role of the post-devolution Scottish government in establishing a context for pooling was recognised and it was observed that pooling *'comes from the fact of devolution almost, that the Executive is very keen to see Scotland progress and has always been inclined to believe that everybody should be pulling together for Scotland and that more will be achieved by doing that'* (O1).

It was never going to be that they would just say, 'we'll pick... certain institutions and we'll give the funding to them', that won't happen in Scotland... the MSP for wherever it is will just jump up and down and say, 'you can't do that, that would destroy my institution', and so that won't happen... I don't say it's right or it's wrong, it's just the way it is, and you have to be pragmatic at that point in time, and work within that system (A3).

We've got a new Scottish government that is starting to frame things in Scottish terms in ways that we hadn't previously and I guess the universities around the Universities Scotland table were thinking 'well this creates a bit of an opportunity maybe to position ourselves'. So a happy coincidence, I think, of self-interest and national interest coming together (G2).

The recognition that, post devolution, the Scottish government started to frame things in Scottish terms is connected to the observation that pooling 'comes from the fact of devolution'. In a politically devolved Scotland it was now possible to conceive of a strategy that was specific to Scotland rather than, as previously under administrative decentralisation (Keating, 2005) to have to translate an existing UK-wide policy to be workable in Scotland. It is not coincidental that this successful policy that has attracted widespread support was conceived and developed within Scotland. The importance of the Scottish context and its relationship to the process of policy development was raised:

I'm a great believer in the notion that when you're thinking about how policies are developed or how things happen you've got to understand context. You've also got to understand content which is in this case 'why pooling and not another approach to collaboration'? And you've got to understand process, how all these ideas came together and how it all worked out in practice. Context influences content and processing and vice versa, it's a kind of iterative look but all these things are in the mix and the answer somehow magically falls out the other end (I3).

Scotland's location within Europe was also important. Attention was drawn to the influence of developments in the EU, including EU Framework Programmes supporting research and closely aligned to the Lisbon strategy and the ERA (European Commission, COM (2007) 161, 4.4.2007) and that pooling fits EU strategy and enhances Scotland's position within the EU:

The European Union in its Framework programmes, which have been going now for 20 years, have always required collaboration. And indeed, the most recent communication from the Commission stresses networks as the way forward for Europe... so in a sense the idea of networking had been promoted strongly through the framework programmes (S3).

This was presented as having facilitated the development of pooling, and while it is possible to view this EU pressure for change as a homogenising, travelling policy (Alexiadou, 2001; Ozga, 2005e) the data suggest that the specific context of Scotland was important, and certainly, the importance of utilising Scotland's network experience to improve its competitive positioning was emphasised:

A lot of the funding... comes for research networks. So what we already now have in Scotland are many networks that are national and... there's no reason why you couldn't say to the Europeans 'look we already have a network, we already have a structure, we could actually head up this' so rather than just being a peripheral node we would be at the core... there is great potential there to really play a much stronger hand within Europe (O2).

Collaboration is one area where it would appear that Scotland possesses a clear competitive advantage over England, in other words while it would be difficult we thought we could do collaboration a hell of a lot better than England could, and so it has proved (S2).

This sets research pooling in the context of providing a significant competitive advantage for Scotland by capitalising on a propensity for collaboration and focusing it into an operational strategy.

The Bologna Process was also felt to be a contextual influence, connecting research pooling to issues of autonomy:

If you look at the Bologna agenda across Europe there is a very live discussion around a, now explicit, commitment to lack of government interference in higher education institutions as, effectively, one of the values of the Bologna process. It is part of a wider belief very much driven, I think, by the rest of Europe looking at the north of Europe and seeing highly, highly successful higher education systems that have

hugely better autonomy from government than the south of Europe. We fundamentally believe that institutions should have that autonomy and if we take that autonomy away it's going to be really bad. So I guess research pooling, in one way, is just an extension of that (G2).

The extension of this European policy agenda to practical policy making at the level of the Scottish government was consistent with the higher education sector being empowered to develop policy on its own initiative:

As long as government is framing its policy interventions on an outcome basis... then I think that's the right level of accountability... where it gets dangerous is where we start getting into the detail because I don't think, well I know, we don't do detail well in government, we'd just get it wrong, definitely (G2).

Nevertheless, the principle of autonomy from government does not mean that government influence, steering or agenda setting is not significant. Government through its objectives, priorities, strategies, reports and ministerial guidance established the broad context for the HE sector, for example:

The thing that provided a positive colouring was the 'Smart Successful Scotland' document. It showed that the Executive had accepted and taken on board the argument that high quality research is important for economic development (H)

However, there are academic values in Scotland that speak to a caution over harnessing research and higher education to the needs of the economy alone. The data suggest wariness over increasing pressures to connect university research to economic performance and view universities as economic organisations driving knowledge societies (Deem, 2001), that appears close to the tradition in Scotland of broad, liberal education:

That's fine as far as it goes... but what is crucial for the university is that we must not permit this definition of our role by government to be our definition, because actually we have a much broader and wider role than that. And if we permit ourselves to be defined in the terms that government wishes us to be defined, then my view is that we undermine ourselves dramatically and fundamentally (S3).

What we desperately need is the education of the individual to put them in the position where they can make the act of self-discovery in a sense, that's crucial. If all we do is care about the research effort and its impact on the economy then we will fail in that absolutely crucial area (S3).

Higher education has cultural meaning and political significance in Scotland, and its outputs are felt to make a contribution beyond economic performance that includes social, cultural and personal advancement (Raffe and Byrne, 2005; McCrone, 2004). The role of Scottish cultural values, including egalitarianism, fairness, sharing, and community mindedness were referenced and their importance in framing the context for education policy making was emphasised, particularly the belief that, historically, access to education was more readily available in Scotland to those from poorer backgrounds than it was in England. This supports literature noting the importance of the collective narrative, or Scottish myth of the lad o' pairs (eg. McCrone, 2001):

I think of people like Thomas Carlyle, his parents were not well to-do, he came from the same part of the world, we both were pupils in the same school. You wonder whether someone like Thomas Carlyle, if he had been born in Carlisle rather than Dumfriesshire, would he have gone to Cambridge? He walked to Edinburgh [University], lifts on the back of carts or something... and I suppose subliminally that does influence you, there is a recognition of the importance' (G3).

There is definitely a more egalitarian thing in Scotland, you know, than in England... I don't particularly like this talk about Scottish egalitarianism, but there is a slight... there's a feeling of a bit more fairness and everybody's got to get a wee share of things (G1).

It's not that we don't want excellence because we've explicitly said that we want excellence and we will support and recognise and reward excellence. But I think we're just a bit more community minded (G2).

The data convey a sense of the power of values, beliefs, myths and narratives (McCrone, 2003) underpinning the thinking and actions of the policy community in such a way that actors did not need to discuss them explicitly; those involved shared a feeling for what would be accepted or resisted in the cultural and political context of Scotland. This gives weight to Raffe's (2003:5) observation that those working in

the Scottish context come to absorb its values, traditions and myths and 'are in different ways influenced by it'. In this way political and cultural factors were held to influence contemporary policy making and policy preferences in Scotland:

The abolition of tuition fees was undoubtedly cultural. It was something that fitted, that the Scottish body politic wanted, or didn't want... there was quite a strong antipathy which continues to this day and I think, yes, is it egalitarian?' (G3).

It was absolutely apparent, and all of us agreed, that the chance of persuading the Scottish Executive that more selectivity was required in funding was very low, largely because a sense, whether it was real or not doesn't matter, but people just think it, people think that Scotland is a more communitarian place. I don't think the evidence supports that, but that's what they think. And if people think that, then they act in that way. And therefore we felt it was extremely unlikely that politicians would be prepared to see the Funding Council create greater selectivity so that universities like Edinburgh, that do particularly well in research, could benefit (S3).

It would be politically unacceptable to give a disproportionately high resource directly to the University of Edinburgh because it was the University of Edinburgh, when strangely it's not politically unacceptable to give a lot more money to Cambridge because it's Cambridge. You can do that in England and people in Yorkshire don't riot or, you know, say awkward things in parliament. It's not conceivable that you can do that in Scotland... (I1).

There's a political reluctance in Scotland to be quite as elitist as that... in Scotland, well it's a small country and unless there's a bit of, you know, spreading the jam a bit more, then you're just going to get hassle [so pooling] helps you get the critical mass without it being all at the one institution' (G1).

[The English model] was politically untenable in that it would be very divisive to do that. So essentially [by pooling] you're doing the English White Paper but you're doing it horizontally rather than taking the vertical slice... it was just a different cut but it would be delivering a very similar sort of result (O2).

I mean, Scotland, for example, it's never gone and funded absolutely by the RAE criteria, you know, the ratings that the RAE have given in England of this being a funding formula that... if you're entitled to thirty

percent of the money, then you will get thirty percent of the money. In Scotland it's always been recognised that some of the big institutions are entitled to a huge share, or if you apply the same funding model would get the same... would get a huge percentage of the pot. But then it's always been smoothed out, hasn't it? So that hasn't happened in Scotland (A3).

Cultural values therefore were held to feed through to political views, and establish a sense of Scottish distinctiveness as a consequence. Cultural values and political power established a context in which a strategy that would favour elite institutions in England was regarded as divisive and unworkable, and 'not going to happen' in Scotland. Nevertheless, Scotland was faced with the same global KE challenges as England and had to develop its competitive position.

The data draw attention to a post-devolution confidence in Scotland and to a new Scottish government framing education in new ways and with the political power to pursue policies designed specifically to meet Scottish needs and work in the context of Scotland rather than, as would have been the case in pre-devolution Scotland, the Scottish Office interpreting UK policy to fit the Scottish context. In post-devolution Scotland, cultural values and preferences including egalitarianism, meritocracy and collaboration were able to find expression through the political system in such a way that 'pooling comes from the fact of devolution almost'. The data also suggest concern to advance Scotland's position within European research and that Scotland's growing expertise in establishing and managing research networks, of which pooling is a key part, might provide a strategic competitive advantage enabling Scotland to move from the periphery towards a more central role within Europe's emerging research networks.

Section 2: Steering

'Steering' and the Policy Community

At the level of government there was a strategic view that for Scotland to compete internationally it must be on the basis of high added value knowledge. The data

support understanding of universities as 'axial structures' in knowledge societies (Bell, 1973), and university research was understood to have a key role in supporting economic performance and positioning Scotland to compete in the knowledge economy:

Hugely important, now it just trips off the tongue the expression 'the knowledge economy' but if you're going to be competitive in the 21st century, investment in knowledge, in learning, I think it's absolutely crucial and that's certainly recognised within the Executive (G3).

When devolution occurred there was the recognition that in terms of the economic prosperity of Scotland the whole knowledge transfer activity and the whole knowledge industry was going to be a big entity. The Executive and the ministers were always very keen to know that the research going on in Scotland was cutting edge, leading edge research (O2).

However government does not directly control universities or their research activities but acts through the SFC, a non-departmental public body, and with the participation of a network of HE policy actors. The relationship between government and the SFC was raised as key to the management of the sector and therefore key to understanding how pooling came about:

Governments are pretty powerful, but at the end of the day because the government has agreed that that's the way things will work, the government can't tell the universities what to do, it can turn off their money, they could do that, but... it would be a nuclear option to turn the money off (G1).

This data set draw attention to the limits of government power. Although powerful by political mandate and control of public finances, government must also deal with a higher education sector made up of autonomous institutions (eg. Henkel, 2007), and the following data set suggest a view that it is preferable for government to set strategic priorities and let those involved develop ways to achieve them, and that this was understood within government:

There's a challenge for government in trying to influence in a benevolent, beneficial, way without telling universities what to do because clearly again the other side of that coin is that universities are innovative and entrepreneurial and will go away and do things that we would never think about and do them better than we would design them... and certainly this is something the civil servants keep on saying to ministers, we should trust the institutions because they know better than us because they're much closer to the action than we are (G2).

You can give clear steers and things like that, but there is a line, and I think politicians have got to be very careful they don't overstep it, between encouraging and how far you can direct (G3).

Government therefore attempts to steer the HE sector rather than control it directly (Nowotny *et al.*, 2003) and to help it in this it has retained one of its most important steering mechanisms:

What we've tried to do is to get much more clarity with an outcome focus that says 'right, here are the half dozen high level things that Scottish ministers want the higher education sector to achieve [including] world class research'. That's what we tried to frame, and we very deliberately kept the ministerial guidance when we established the new Funding Council (G2).

The SFC therefore is in a central position between government and the HE sector and, while the relationship between government and the sector is contested, it has endured throughout most of the last, and into this, century and represents a compromise between direct control and autonomy:

It is officially at arm's length, words like 'buffer' come up, you know, they are the buffer between higher education and 'evil politicians' who will seek to take funding decisions on the basis of political prejudice, soviet style [laughter] (G1).

Voices would be raised from time to time, notably at spending review time, you'd get Finance Ministers in the Executive saying... 'you're saying you need all this for universities, isn't it time universities paid more attention to the economy and spent the money on more relevant research and stuff'? And we would say, 'yeah, well, do you want to change the relationship with the universities'? They never quite did it, they always backed off... so that's the relationship, it's arms length (G1).

The data support observations of an associative governance approach in Scotland (Brown, 2001) and draw attention to a complex governance network relationship in which the Funding Council plays a central role. There are tensions between government's need to ensure its broad goals are understood and being contributed to and a realisation that direct control of institutional strategy would be problematic, and between the reliance of institutions on government funding and their desire for independence and autonomy (eg. Neave, 1988; Henkel, 2007). However the Funding Council is more than a mediator, it is an active agent in policy and strategy. In research pooling the data reveal tensions between the power of government expressed, not directly, but through its key position within the policy network, and other network agents empowered to act on their own initiative:

We used to get an annual letter of guidance, and they tended to say things like, you know, 'More competitive, strengthen the research base', which we knew, and that's where I started in this discussion, and you'll probably find the word 'collaboration' is in there, but there wasn't any kind of clear steer, 'We think you should now start grouping departments' or anything like that (S2).

It was put to them. But now, very quickly the Scottish Executive realised that this was something uniquely Scottish. It was something that allowed us to work together in Scotland (I4).

I've had a lot of conversations with folk in other parts of the UK and more widely from other parts of Europe saying 'how did you make that happen?' And we made it happen by not doing it, if you see what I mean (G2).

The guidance from government was at a broad, policy level, specifying neither actions nor strategies. However the data suggest that this more participatory process of policy making (Keating, 2005) was highly effective in the case of pooling, since the sector clearly felt empowered to develop a policy that both it and government realised was consistent with Scottish government objectives, and further, that government realised it probably could not have brought about by direct intervention. The observation of a government respondent that 'we made it happen by not doing it'

serves to locate government in the research pooling policy process as setting national priorities and providing political and financial support to enable it to happen. It raises the possibility that under conditions of associative governance rather than traditional forms of government, with the active participation of policy networks, that government policy is, in effect, more than policy formulated by government; that the policy community's outputs under conditions of steering are effectively government policy.

From the data it is apparent that policy actors clearly understood the Scottish government's predisposition for collaboration as well as the strategic intent to enhance Scotland's research capability. The following data set suggest that whether by steering or reinforcing views already in the policy community, these ideas fed through to policy discussions within the sector:

I think policy is made in three sorts of ways. One of them is this incremental policy where typically what happens is somebody in the back room, civil servant a secretary of the department or whatever, writes a piece as an agenda paper for a meeting, and the Chairman says 'Isn't this a good idea'? and we'll all nod and say 'Yes'. And that bit of policy is like a glacier flowing sedately down its valley.

The next bit of policy is the bit where suddenly something happens on the outside, and you think 'my God we've got to make a decision' and you make it. And actually you make it within half an hour. And you haven't really thought it all through. Maybe the guys in the back room have said 'Well there's this consideration and that consideration' but actually that's a dramatic moment, that's more like bloody great icebergs calving off the end of the glacier, and it's quite a common phenomenon I think.

And the third sort actually is in a sense the most desirable and the most powerful but it's rarely achieved. And that, for instance, in the example of the Funding Council is that once a year the Funding Council has an away day where they say: 'What are the big issues for Scottish higher education? Do we need to do anything? Do we need to understand more and if we need to do something, what do we need to do?' And that happened actually in pooling, we did have a session where we talked that way... and I gave a little presentation about the way a research base works. And then we had a good long discussion... the idea that there might be some collaborative framework came in the course of a

discussion where the agenda paper simply was to discuss the possible consequences of top up fees in England's universities.

We agreed we couldn't do it by... we couldn't do it by going for strong selectivity, but it was pointless trying to do it by saying we should have top up fees, and we should think of something else and maybe some way of selecting excellence no matter where it lay was the key (S3).

The data therefore speak of the deep involvement of actors in the policy process, conveying the strong impression that they felt part of the process, dealing with and making important contributions to the substantial issues, and that this involvement in the content of policy rather than simply responding to an announcement by government was felt to be important to the success of the policy. This suggests the possibility that the policy process drew in actors by offering them an opportunity to act outside of the perceived constraints of new managerialism and 'performativity' as described by, for example, Deem (2007), Ball (1998), Neave (1988) and in so doing appealed to earlier and quite fundamental motivations underpinning academic culture including for example Polanyi's (1962:66) '*initiative of original minds, choosing their own problems*' Merton's (1957) intellectual satisfaction of solving a problem, expressed by Lam (2007) as '*the ribbon and the puzzle*', and the influence of the invisible college (Crane, 1972) and academic tribes (Becher and Trowler, 2001).

The data also reflect a strong sense of the importance of individual agency in exercising power and influence, and in mobilising resources to drive the policy forward:

You cannot underestimate the influence of individuals within any sort of policy change... there was a combination of individuals around at the time who basically almost drove it forward... Three or four key people who were involved in [pooling] really moved it forward (S1).

The reason that it's different from an incremental improvement is one person came in [SFC Research Director], had the guts to try and was able to persuade other people that that was the right thing to do. I don't think it would have happened without him (A2).

I'm an agent of change, I'm an agent of continuous improvement. Research is a very creative, highly creative engagement, it requires innovation, lateral thinking, it requires going where no-one has ever been before. It has to be like that and any structure that you have in place must not kill that and this also must not undermine the universities that are supporting it (S4).

I had already been talking to OST at that time about the way in which Scotland would want to implement its research restructuring fund resources and this was something that OST had allocated with SRIF which was designed specifically for restructuring and in England, for example, some of it was going to be used for the Manchester merger. And I had argued very strongly that based on my academic knowledge and the fact that I was a researcher in Scotland and in England that, and I had a good perspective on this, that some of the models for bringing universities together in England were not appropriate for Scotland... I had to be quite forceful in that stance, because the difference between English universities and the Scottish universities was not well understood outside of Scotland (S4).

The data suggest that even within a relatively small policy community it was felt that there was an even smaller group driving research pooling, and that there was an understanding that policies and structures have real impacts on individuals and that with research pooling it was important to protect and encourage creativity and innovation. This was an important insight and that it was recognised comes from the involvement of individuals and groups in developing the policy who understood intimately the research process and academic culture. The data also reveal the influential role of the SFC, marshalling resources in the form of positions, arguments and support as well as financial resources.

One of the important elements was cited as establishing the principles underlying the pooling system for which the SFC was responsible in conjunction with the main universities involved:

To actually formulate the rules of the system so that it clearly didn't favour in any way whatsoever the research led institutions. And therefore right at the beginning we said... the objective of this exercise is to produce better quality research within Scotland. The requirement for membership is purely based on the individual's standing as judged by his peers and not in any sense by his affiliation (S1).

This data set support the influence of values and beliefs, of egalitarianism and meritocracy, of the democratic intellect (Davie, 1961) expressed in the contemporary language of research pooling '*selectively inclusive*' (SHEFC/HE/2003/MIN5, 2003) where both words have equal weight; where favour is not shown other than to intellectual ability, and affiliation to any particular institution is neither an advantage nor a disadvantage.

The SFC and the Scottish government also had a central role in obtaining the additional funding necessary to motivate the institutions and the academic researchers:

Funding policies drive behaviour whether people like it or not. So having money available to do it, particularly at the margin, is very, very powerful (S1).

Scientists would push water uphill for money! They need the equipment, labs and teams or they can't do their research (I4).

Well that's very simple, money. [laughter]... It's not complicated. If you say to a group of scientists, you know, 'Would you like £10 million? Here's a way to get it' and they say to you 'Well we'd like £10 million but we'd like to get it some other way' and you say, 'Well I don't know any other way... I know this way and I know no other way... (I1).

However, while academic researchers had a clear need for the additional resources offered by pooling it was recognised that they retained and exercised considerable power throughout the policy process. The data suggest that it was accepted within the community that without the support of the academics involved for the concept of pooling and their participation in the policy process that the policy idea would have little if any prospect of success. This supports earlier discussions in the literature, and also conveys a sense that even under new managerialism the nature of academic work is such that Ashby's (1967) observation of power flowing upwards, though now subject to countervailing pressures, still has some force. It also resonates with Deem's (2007) suggestion that more subtle forms of new managerialism have

occurred in HE possibly as a result of managers being drawn from the academic community, understanding academic practices and culture, and choosing more consultative approaches.

We're not directing the universities, we have developed a partnership so that we can suggest something, invite them to respond, and develop something collectively, jointly. Unless something is owned by somebody they'll only half do it if at all (S2).

Economics was one of our pilot areas, but there was work already going on in economics because after the poor results of 2001 [a senior group] had already started a process looking at the poor performance in research by the Scottish economics departments and what they might do about it. I think you got a very interesting demonstration of process there because [the group] came up with a solution and then said, 'Here you are, research community, here's the solution.' They didn't like it. They wouldn't do it. You can't draw conclusions from a sample of one but I do think it is strongly indicative that the one area which had started quite early but where somebody else came up with the answer and tried to impose it on researchers did not work. You have to have ownership (S2).

The relative balance of power between the SFC and the academics involved is illustrated by data suggesting that of the four pilot areas selected by the funding council (SHEFC, HE/2003/MIN7, 2004) only one, physics, emerged in the first round of research pools, indicating that the SFC lacked the power to require academics to pool resources or to act according to the timetable of the Funding Council and suggests that exchange of resources and power was an important dimension of the policy process.

How a 'Conservative' Policy Community Produced Radical Change

The data emphasise the importance of the idea and the policy coming from within the policy community rather than having been imposed, and that the community were involved in shaping it to meet the Scottish context 'making it up as we went along'. The data also suggest there was a flexible approach in which an understanding of academic culture was prominent and that this extended to an understanding that, as

Becher and Trowler (2001) argued, different disciplines had different contexts and practices and therefore required individual arrangements.

I think there was an element at that time of kind of making it up as we went along. It was not traditional because... I can think of no evidence that this works and there's no model from any other part of the world. No one was saying pooling has worked in the west coast of America or pooling has worked in mainland European countries, therefore we must try it here. There was no evidence; it was a kind of original idea. Original thought. Which is quite interesting in itself (I2).

If you look at something like the ITIs [Intermediate Technology Institutes]... the way the three ITIs were created is a good comparison because... they did their analysis: 'one of the problems with Scotland is we spend a piffling amount on commercial R&D'. They then looked around for mechanisms and saw Scandinavia 'oh, they've got these ITIs' so they then came back and said 'Scotland needs ITIs, and we've found £45 million a year to do it'. So that is an example of top down policy done on a comparative basis using practice in other countries as a model, and it is about as different from how pooling was formed as you like (I1).

So, there has to be an appreciation of the culture of a subject and no imposition that this is pooling, this is the way it works and you have to have this or not (A1).

This data suggest that an important factor in moving the policy forward was that it had been developed within the policy community itself rather than having been given to them to implement. Consequently, it was owned by all the major groups within the community for whom the policy offered the possibility of advancing their interests. Ownership alone however may not have been sufficient without leadership, and this was demonstrated at key points within the community including the SFC, institutions and the discipline areas.

I think some of it is about, particularly the leadership in these institutions... if you can see the bigger picture and recognise that you're actually playing on a world field, you're not actually too worried about competing with a university forty miles away from you (G2).

We didn't spend a few months with me arguing 'oh, but no, Edinburgh should be treated like Imperial' we at a very early stage just... I mean really right at the very beginning said 'the English model is impossible full stop, end of discussion' and we didn't go back to it, whatever we're doing we're not doing what they're doing in England. So the starting point was, well we need to do something new and it needs to be focused on the subject, not the institution (I1).

We could each have ploughed our own furrow. Why did it feel right? It felt a very grown up thing to be doing. It felt mature and sensible. There was a feeling of understanding or empathy or goodwill... you sometimes come away from meetings feeling 'I know why this isn't going to work'... I didn't come away from that meeting feeling that... I came away from that first encounter thinking this feels right, so the hearts and minds bit of it... felt right. And it wasn't a meeting to negotiate words, to have a text, either a communiqué or an agreement. It was a meeting to say this is a concept, and I think it was handled quite well really (I3).

The contribution of leadership was expressed in different ways: redefining the locus of competition; the championing of the policy by an institution that might have been expected to have argued against it and in favour of greater selectivity and concentration; and the idea of rising above in-fighting and agreeing to work together resonated with those in leadership positions.

The data suggest that leadership had to engage personally in making the case, persuading colleagues where necessary in order to mobilise support:

There was a hearts and minds piece of hard work with the staff and 'how will it benefit me'? Some people think 'we are being taken over by'... all those sorts of strange and often illogical fears that you have to... it was an interesting training exercise for me into the psychology of dealing with other people (A1).

It did have to rely on a lot of talking and calling meetings to disseminate, and it wasn't always possible for the Head of School to meet all the other staff but he would speak to the line managers who would then speak to the rest of the staff and make sure that there was a two-way flow, because concerns had to be addressed and if staff were very concerned about things, then they needed to have their worries, their fears, you know, we had to deal with them (A3).

The availability of additional resources rather than resources transferred from other areas was also felt to be crucial to securing agreement and commitment across the HE sector:

Essentially the university Principals had to collectively convince themselves that... resources for pooling would be a genuine addition... [and] politically, the key thing at the Universities Scotland end was for people to not see this as taking away money that might be spent elsewhere. If the unit of resource for teaching had dropped while the resource for pooling had been added, then there would have been pandemonium (I1).

On the good days the academic community saw the opportunity to get resource, and they saw the opportunity to do some things that most would regard as being prima facie quite sensible... I think that there were moments when there would be loss of confidence and that's in and around these governance areas, the extent to which there was interference, the extent to which there was flexibility in what you actually did, and the extent to which one university might at some point be thought to be nipping away with the ball up its jersey (I3).

Additionality was felt to be key to steering the policy through, it avoided in-fighting over redistribution of resources, but there was also a sense of the importance of trust in helping to keep concerns over interference and who get's what in check.

The data make clear that within the policy community it was felt that one of the key insights of research pooling was that academic researchers have a stronger affiliation with their subject than their employing institution, '*the greatest meaning, commitment and loyalty*' described by Dill (1982) and therefore it was important that the direction of the policy worked with the grain of academic culture. This contributed to the relative ease and speed with which the policy developed.

There is of course the well-worn academic idea that many, many people, many, many senior academics are more committed to their discipline than they are to their institution. So it will mean more to a lot of them to have an initiative on cell biology or laser physics than it means to work at St Andrews or Edinburgh. So that's another kind of bit of the psychology that pooling has tapped into quite cleverly I think (I3).

University academic staff have strange loyalties, in the sense that their loyalty to their subject area may or may not clash with their loyalty to their university, and I suspect they have a stronger loyalty to their subject areas than they do to their university. I don't think the university hierarchy thinks like that or likes us thinking like that, but our loyalties were to the subject area, and we had therefore an opportunity to make a statement in chemistry, which would be perceived and recognised at least UK nationwide; that would be quite a dramatic statement (A2).

This suggests that steering the policy through relied not only on loyalty to the subject but also on the deep sense of personal involvement that the subject focus engendered 'to make a statement'. This use of language suggests doing things differently, but it also raises the possibility of an alternative way of talking about what can be done – that discourse itself is a powerful social resource (Trowler, 2001).

One of the first lessons that I was indoctrinated in was the hierarchy of academics' allegiance, you know, subject first, department second – because you need to get your broom cupboard to work in – institution often quite a distant third. So I kind of felt, and others agreed with this, that that basic very fundamental force – we're talking 'physics' now – would glue these things together when the going got tough (S2).

What clinched it was one of the key tenets of the argument... that an individual researcher had a greater degree of loyalty to their subject area rather than to an institution. [The institution] actually doesn't determine your prospects if you're a research institution, your peers do, and that makes research quite different from lots of other things. This is something which is quite unique to research actually. If you're a world-class whatever it is, the institution you work for is helpful but the choice of whether you get asked to give a lecture is more likely to be determined by the quality of the research you've published, rather than the address on the thing (S1).

The idea of pooling really was that if you were able to recognise that professions and groups of people with similar interests have probably more in common with each other and their profession than they necessarily do with their employing institution, then there would be another loyalty that would hold them together and allow them to autonomously develop their own subject area... this is like a utopia for researchers, where you can be employed by any one of a number of different institutions, but you're part of a big family that work together (S4).

It required institutions to give up sovereignty, which was one of the major achievements of it. I was really quite surprised that actually happened (G2).

The data suggest there was policy steering by appealing to academic values and culture, and presenting academics with the freedom to develop policy and their disciplines working with their peers outside normal university structures. The data convey something of the excitement academics felt at being empowered in this way, and connect to a sense of tapping into the unalienated labour of academic work and so reinforcing the importance of personal involvement and challenging feelings of control engendered by managerialism (Deem, 2007). They also convey the size of the challenge, since working outside university structures in a research pool presented a challenge to university sovereignty that required the agreement of the institutional leaderships.

Steering the policy through to implementation benefited from the buy-in and involvement of academics in policy development:

The thing about chemistry I think that's important... it came directly from the chemists. We formulated papers, we sent them to the Funding Council, and we said that's what we want, can you accommodate us, and this is what we will do, and this is what we promise, and this is what we will deliver. We didn't get someone saying we want you to do this and we want you to deliver xyz... it came literally from us and it was all from the bottom up (A1).

I did feel as if I was influencing policy... and it's probably the only time I've felt that, in that there wasn't really any policy. I mean the policy was 'let's do pooling', but how? There wasn't the form that told me how to do it, we just wrote papers and sent them in and said does this look ok, should we do this, should we do that? So, in effect, what you were doing was creating policy to a certain extent (A1).

This indicates a high degree of commitment and buy-in to the policy and was a strong characteristic of the policy process throughout and at all levels from academic to government. Government understood the importance of the policy proposal, that it contributed to their overall objectives and that, without intervention, the sector itself

was addressing issues of collaboration, value for money and strategic coordination at the national level. There is a long tradition of universities in Scotland acting in the national and public interest (Carter and Withrington, 1992) and the contemporary HE sector 'partnership' with government also reflects the Scottish government's readiness to work with professional communities. Government were consequently supportive and prepared to act to find the additional resources necessary to facilitate the policy.

If you're trying to do something fundamentally new, then if people are wanting to buy-in then for god's sake let them because it's the best way to get the message across. So I wasn't surprised that the Funding Council said 'okay let's see what you've got to offer'. I think that was right (A3).

I very strongly believe that if an idea - just because it comes from the sector doesn't mean to say you would necessarily run with it - but if it comes from the sector and makes a lot of sense, it's far better that the sector's got buy-in [and] on pooling, it seemed to me to be eminently sensible (G3).

That idea coming up from the sector through the Funding Council, I mean it's not just that we accepted it, we accepted it and saw it as a plus, and if it was something the sector was wanting, because it's not easy, universities, as you well know, are very rigorously independent and jealously guard their independence and if they're actually to pool, it's not an easy thing, it's easier to talk about than it is sometimes to do, but if there was clearly a favourable wind coming from the sector, I was only too keen to encourage it (G3).

The relationship with academics over research pooling was complex since they were involved in the policy development as well as being responsible for the delivery of research, and consequently the policy development and policy implementation stages were closely interrelated. Part of the rationale for this is indicated by the data extracts that: 'you can put something on the statute book or whatever, but if you haven't got the goodwill there to make it work, you're pushing...' (G3). An academic respondent made the point that: 'we can't force research... it works so much better if people do it because they want to do it' (A3).

There was an additional benefit of involving those responsible for implementation in the policy process since this prevented any disconnect between policy announcement and subsequent delivery:

A habit has grown up of Ministers kind of offering you the policy first and thinking subsequently about whether it can be made to work... this has been kind of different. There has been a policy to have SUPA because SUPA was agreed. I remember a meeting with [the Principal of Strathclyde] and me and the Funding Council... and if we hadn't agreed, we wouldn't have had the engineering one... so in a sense you didn't announce Glasgow Engineering until you had Glasgow Engineering to announce. So I offer you my old-fashioned theory that this is in fact a more old-fashioned set of policy making (I3).

The data set contain the insight that research pooling drew on a different approach than has been favoured recently by governments, in that it was built up in steps, drawing on the experience and expertise of those closely involved to shape a workable policy that could then be announced. This indicates that as well as the policy itself being innovative the *process* of policy development was also novel.

In the literature there is a suggestion that policy communities tend towards incrementalism rather than innovation and act as 'a major constraint upon the degree of policy change' (Rhodes and Marsh, 1992:198). This is one of the interesting features of research pooling and in this case the data do not support the suggestion of a lack of innovation in a relatively stable policy community, instead the data suggest a way in which relative stability acted to produce a radical policy outcome, linking stability, trust, collaboration, creativity and pooling.

I think that, certainly in a place the size of Scotland, that stability actually helps to build trust and trust is the thing that enables institutions and individuals to work together. Now, I think it depends what sort of an innovation you want but if it's an innovation that's about collaboration I don't think the way in which you create collaborative endeavour is through people feeling insecure and feeling threatened (G2).

I don't think people are necessarily less creative because they're more secure. I think actually the opposite can happen, that security can actually give you the freedom to be more creative. So, to take it back to

research, if you think about curiosity oriented research, blue skies research, pure research, then that is the ultimate in security and trust because that's government or whatever, the funders, saying to the institution go away and play with that and find out something we don't know (G2).

If you've got a need or a problem that's well articulated and you can somehow box off some of the problem space... [you can] build up real trust... 'suppose we did it this way, suppose we did it that way?' then it is possible to make a policy leap. [Trust] more than helps, it's a pre-requisite and if there is serious lack of trust then your chance of doing something radical like this, I think, is zero (11).

In this way the data emphasise that stability builds trust, that trust is the basis for collaboration and it is collaborations and combinations that spark creativity and innovation both in outputs and in the policy process itself.

It is appropriate to consider this data set on 'old fashioned' policy, security and trust and contrast it with the impact of new managerialist approaches discussed in the literature review. The data convey a feeling of ownership and personal involvement in the policy process that is characteristic of academic culture but stands in contrast to feelings of ambivalence and anxiety under new managerialist approaches (Casey, 1995) with active management of academic staff towards institutional goals (Trowler, 2001) and de-professionalisation of the academic profession (Halsey, 1992). However pooling was quite different. For those involved, pooling felt 'real' rather than simply another initiative to which they had to respond. They felt they had a hand in it, it originated within the community, it respected and worked with academic values as much as national priorities, and the main actors shaped the policy as Mintzberg's '*potter at the wheel*', crafting policy in a tactile way in which '*formulation and implementation merge into a fluid process of learning through which creative strategies evolve*' (Mintzberg, 1987:66). The data suggest that research pooling policy operated at a level to do with content rather than appearance and consequently people trusted the activity and this was reflected in the quality of engagement.

The following data set suggest the willingness of those involved to do whatever was necessary to make the policy work because the benefit of enhanced creativity within a research pool was attractive to researchers and to the policy community:

I think there's been a fair degree of trust but it hasn't been there all the time, and at various points the academics have said 'What is happening here, how are we dividing it up?' 'Calm down. You can't have everything'. If you're going to make pooling work you do need trust (I3).

When you take on board a partner... you effectively lay yourself open, bare, because they have to know every last detail about your finances, when we've done the RAE they have to know every last detail about all of your staff. You can't hide anything from them, or if you do, the partnership's never going to work (A3).

Just two people working together is much more valuable than two people working individually. There's so much more benefit, but then if you multiply that across a whole pool, which for physics or chemistry would be about two hundred research supervisors, then the added value is absolutely enormous... the combination of different interactions and sparking of ideas and synergies and camaraderie that would happen because of joint interests, which then of course leads to enthusiasm and all the other positive things... you see research is a very creative, highly creative engagement, it requires innovation and lateral thinking (S4).

The network of informal contacts and relationships were felt to contribute to speeding up the process by ensuring there was personal commitment among the senior leadership. This supports the importance of interpersonal relations in policy communities observed by Rhodes and Marsh (1992). Informal meetings, including working dinners, at the early stages of the development of the policy were cited as important:

The other thing that, while it sounds silly, I think the dinners really do matter, you know, dinners are quite long actually, so you can go round the houses quite a bit, by the time you've had your drinks and had a bit of chat afterwards you've spent four hours together, so you've got quite a lot of space (II).

The advantage of the dinners and the other contacts meant that there was a... genuine team effort where people could, basically, say 'Well I've

done my bit, six weeks have passed and I've done my bit, have you done your bit?' so the fact that... a lot of the most important discussion was [informal] rather than memos dictated, sent, processed, responded to, that... made the personal commitment (I1).

I mean this all happened in one evening, no notes, no minutes, it was a kind of informal discussion, and then these ideas just started running and it was all done pretty quietly. I was expecting the usual Universities Scotland reaction about, you know, we understand there was a meeting, where does that leave us? Does that mean we're never going to be involved in this discussion and why the heck was Dundee there and not Strathclyde and not Heriot Watt? But none of that emerged (I2).

All of these things are very much about human nature... but this is absolutely crucial to getting buy-in, to getting a wide group of pretty senior people saying 'yes we're going to do better if we collaborate with an entity that we've considered for maybe even centuries [laughter] as a major competitor' (S4).

The data also convey the sense that it would be wrong to assume that steering the policy relied upon altruism on the part of the main actors. The following data support a view of the internal workings of the community as involving the exchange of resources (Rhodes, 1997) and illustrate that successful steering required calculations of what would best serve the interests of the groups involved:

Our initial approach was 'we don't like pooling, we don't want anything to do with it, it's our money anyway, why are we messing about here'? So we were pretty anti to begin with and then it took both me and the College Head to say, 'look, you know there's roughly £30 million at stake here, if we don't play this game we probably won't get the money'. There was certainly enough trust and enough motivation along the lines of 'is it possible to make the whole greater than the sum of the parts'? for us to stick with it and try it out (I2).

In addition, the leadership through their personal involvement, were active in steering the policy, championing it and signalling support within their spheres of influence:

I do recall, at the point at which it began to be based on documentation and we were drafting up stuff, spending quite a bit of time on the e-mails and in conversation with my own colleagues saying, 'This is what my

understanding is of what we're trying to do, and who we're trying to work together', and there were lots of different iterations of the way in which the governance would be handled, what kind of committees there would be, what kind of leadership there would be, to try to get that right balance, and the extent to which this would release funds over which there was then a degree of local autonomy, and to what extent people were being told that they could only do very particular things with the money (I3).

I suspect that I had rather bought the notion that this seemed a sensible thing to do, and so when stuff crossed my desk I was saying 'Come on now. We can shape this into a thing that will work' (I3).

While the data suggests the policy developed quickly, it also makes clear that it did develop, and it did so by stages and with the support of individuals and groups at each stage 'making it up as we went along'. The process avoided producing a 'grand plan' and instead concentrated on building consensus around a concept, a new way of working:

People were not asked to commit to very much early on, people were asked to commit to a discussion process and people were then asked to commit to an outline bid, people were then asked to commit to a full bid and then people were asked to commit to us going through the presentational process... it's a little bit of a thin end of a wedge, so people didn't seem to be making a big commitment, but in practice it probably was (A2).

Well, it wasn't even 'it happened', it was kind of 'well, we think we might try and do a physics and chemistry pool' says the Funding Council to the Executive. 'Oh yes, that sounds like an interesting idea, we think we can find a few million this year and a few million next' [laughter]. 'Oh that's good!' So even in that sense it wasn't a kind of slam dunk here's... That's the whole point, it wasn't 'here's the plan and we're going to have ten research pools by the year 2020 or whatever... it might have been much more difficult for it to happen... everybody would immediately then have a view on what was in the plan and what wasn't in the plan. But it's because there wasn't a plan, it was a concept, they were kind of signing up to a concept, a way of working (G2).

Key Factors Within the Policy Community That Made a Difference

The data express a sense of the imagination of individuals being sparked by the possibilities the policy offered. Those involved found it exciting, it enthused them and brought out their creativity, and there is a suggestion that they found the speed of change as exciting as the direction of change:

The worst thing is to let something drag on. Why does policy development have to take so long sometimes? I mean it really does... it then wears people into the ground (A3).

The other key thing is that there wasn't the expected resistance... there was plenty of power impelling it, and there wasn't anything stopping it. There wasn't 'it's going to be stagnant and nothing's going to change' it was just change, change, change, change, change and it was a very exciting period (A1).

That was quite fast and certainly only took probably eighteen months to two years from the original discussions. The engineering one, from day one, from the day that we knew about it, probably took about eighteen months or so before the resources were released which gives you an idea of what the, the time required to develop proposals is when you have all parties willing and you have a common agenda and you're trying to move it forward (S4).

The existence of perceived threats from a number of directions was felt to generate a sense of urgency and therefore be closely linked to the speed with which the policy developed:

There was a perceived threat, whether it was a real threat or not one can argue, but there was a perceived threat and things which drive change quickly are perceived threats (S1).

Tuition fees had been introduced into England, and the feeling was we'd better be up and running pretty darn soon, it's not something we could dawdle over. So I think there was a sense of urgency about getting something done (S3).

The other factor that: '*generated the real sense of urgency, was the Research Assessment Exercise*' (I1) and the need to have pooling arrangements in place ahead of the next RAE.

The radical nature of the policy was held to reflect pressures in the global, national and local environments such that small changes to existing arrangements would have been inadequate:

One of the key legs of the Lisbon Agenda is powerful higher education and strong research - internationally competitive research. So in a sense the idea, particularly in the context of top up fees in England, the idea that you could make your way in this increasingly competitive world by just doing variants of the things we've been doing forever really didn't have much mileage (S3).

I think there were two reasons; one of them was that there were a number of individuals and groups that had a vision that they were prepared to go out and fight for. And at the same time the external environment did not suggest that a slow, conservative, Fabian response was appropriate (S3).

The data repeatedly cite the importance of individual agency in relation to the quickness of the process, and that by having researchers involved, the process was accelerated by their drive, enthusiasm and detailed knowledge:

I come back to the importance of the individual, in that there were individuals in key positions at the time that wanted to try and change the structure, wanted to change something... they firmly believed that for Scotland to make a... stepped change that they needed to do something fundamentally different. Now I think that's one of the advantages and beauties of Scotland that it is small enough that you can still do that (A3).

Having the scientists and the academics directly involved in the process, the more you know about something the more you're willing to act rationally and put petty jealousies or institutional jealousies aside (I2).

I think actually it was almost unstoppable in that the papers were being generated so quickly and things were happening and meetings were being set up. I did presentations to the SFC, I did presentations all over

the place to different people, the Executive and whatever, and in the end it just became its own momentum kept it going (A1).

The following data set provide an important insight into the issue of the speed of development: that the policy idea itself worked with the grain of academic culture, values and aspirations, and therefore when academics acted in their own interests this was aligned with institutional, Funding Council and government interests:

It does seem to be a very key element of the policy that it was in a sense pushing at an open door, that this is something that a group of academics already wanted to do... so the whole thing as a result progressed much faster than anybody had first envisaged (O1).

It was a surprise to everybody how quickly it was taken forward and how quickly people could write a proposal, but it was the subject that wanted it to happen (A3).

The availability of funding was cited as a powerful motivator and the opportunity to make the case for additional funds was time limited; the case had to be ready in time for the 2004 Comprehensive Spending Review (CSR). Consequently there was pressure on the policy community to move quickly through the policy process in order to be confident that it had a deliverable policy:

It was possible to resource it... you need a benign financial environment... there needed to be a bit of slack in the system. Without the slack in the system, everybody would have known it was a waste of time and it would have been a waste of time (I1).

I think it was partially that the spending environment from the Scottish Executive that was quite a generous spending settlement and the money was there, the money could be found (S3).

I'll take the [credit] for the Scottish Executive where we can. We got a really good CSR 2004 settlement and that really helped it because there was several tens of millions more in the kitty for the Funding Council to use for this sort of activity, and a chunk of that was earmarked for research and research pooling, so that helped oil the wheels (G2).

I can remember also a discussion in [the SFC chief executive's] office with [the Principals of Edinburgh and Glasgow] where this was slightly coming unstuck just before Christmas. There was a bit of, not argy-bargy, but a bit of dissent in the room and I remember [the chief executive] saying 'do you folks really want to do this'? And I said to him quite directly, 'well only if it's the only way to get the £27 million, if you're willing to give us it by another route we'll just get on with it and we'll have all these people hired and in place and working on good science as quick as you like'. But I think the attraction of a kind of scientific leader, the notion of the three institutions working together... were all factors that we finally reconciled ourselves to that there might be some advantages (I2).

I've subsequently said to [the research director and the chief executive of SFC] 'you know, don't give me all this stuff about pooling, it's our money anyway, if we hadn't been having to work our way through all this pooling stuff, we'd have got the money in QR'... and they say 'ah well, that's not the point though, because the point is unless we had committed ourselves to pooling, we wouldn't have got the money.' It's kind of the oldest trick in the book! (I2).

The data also communicate the sense that, while having no funding available would have made it unlikely the policy idea would have made much progress, once it was known that funding was likely, attention then focused on the possibilities of pooling, and once individuals and groups began talking about the benefits of pooling, these benefits came to be seen as more important than the funding:

We very rapidly got ourselves into the mindset and we asked ourselves, 'look, if this is worth doing, it's worth doing whether you get ten million or not. If we're only doing it for ten million pounds, let's not do it'... If, in your heart of hearts, you can say you would do this whether you've got money or not, it's worth doing. If you say I'm only doing it because they're going to give me ten million, well what about when the ten million is spent? So, I think that's a key thing (A1).

The role of individuals, relationships and shared understanding was also cited as critical:

Personal relationship is important, absolutely totally critical. The key relationship was between me and [my opposite number]... it seemed almost uncanny that we always had the same vision of what would happen, you couldn't put a cigarette paper between us... which is why it

worked actually and why it happened so quickly. There was never any concept that any games were being played... I mean I just said what I thought and he said what he thought and there was no level beyond that, it was just totally absolutely transparent, and trust, to an extent that we never even discussed whether we should trust each other (A1).

It's also interesting how small the community is... [and] having good relationships with people is important, because you can approach them, you can speak to them, you can drive things forward if you've already established a working relationship, how much quicker it is, isn't it, because you trust them (A3).

The important impact of a bottom-up approach and ownership of the policy initiative to facilitating rapid progress was cited:

It means you're not fighting things on two fronts you know, you're not spending a huge amount of time convincing your colleagues, while at the same time trying to convince the authorities, and trying to convince the Funding Council to do it the way you want to do it (A2).

Ownership of the policy was connected to advancing the interests of chemistry, taking the initiative in a time of considerable challenge for chemistry departments in the whole of the UK and finding a Scottish solution. This was an attractive proposition for those closely involved. Direct contact between the academics and the Funding Council, and advancing the project outside the normal institutional bureaucratic processes were felt to be 'exciting' and also necessary to making rapid progress. This supports the point previously made of the process 'freeing' academics from the 'constraints' of managerial controls and procedures, allowing them to act in some sense as the '*street level bureaucrats*' identified by Lipsky (1980:13) with '*relative autonomy from organizational authority*':

I mean that the momentum was generated within the schools of chemistry to make a statement about chemistry... to say something different to what was being said in England with the closure of departments, so that had a certain thrill to it. Doing things out of the normal scheme of things was actually quite exciting and I think both [my opposite number] and I got a big buzz from doing that (A2).

When I started doing this I was just motoring along and I was really dealing with [the Principal] and so I actually, rightly or wrongly, subverted the normal chain of command, you know, I didn't go through planning and all the other, I just went to the Principal. If everything had to be approved by CMG and then F&GP and then Court, I mean, Court obviously approved it at the very end, but if things along the way had had to be... we could never have done it, we could simply never have done it (A1).

Yes, it was a strange way of doing things. And... I can see if I was in the senior management team of a university, that's not the way I'd want it to happen because they should be having an input into this, but to a certain degree I think they thought... well this is a really great idea. I don't think it was the proper way of doing it, but it was understandable how it was done, for the sheer enthusiasm of let's try and do something, let's try and make chemistry better in Scotland (A3).

The language used to describe how people felt when operating outside management structures to develop the policy is in contrast to that which might be expected of policy development in a 'deeply conservative' sector (Smith, 1999:169): 'thrill', 'buzz', 'subverted the normal chain of command', 'sheer enthusiasm'. It also seems very different, as observed earlier, from the way people report their experience of contemporary academic life: 'more managed, bureaucratic' 'remote', under the institutional and cultural change of managerialism (Deem, 2007:4). The data also suggest that the slowness of university management processes was seen as a barrier: 'we could simply never have done it' and that such processes leach energy out of the system in such a way that the 'buzz' described here is eliminated.

The importance of ownership of the policy idea was a recurrent theme in the data. There was also a suggestion of the fragility of an innovative idea such as research pooling and a feeling that it needed to be protected from external critique in its early stages of development.

I think the key thing for the big leap was it was genuine brainstorming, you know, it wasn't that we were summoned to the Funding Council to be told 'we've got a plan, let's show you'. Neither was it the case that we said to them 'here you are' (II).

I'm sure the other thing for making a big leap is total confidentiality; I mean absolutely total. I mean if a half formed version of the idea had escaped, then there's no question that the next tier of, you know, the VPs here and the people who work for [the SFC research director] and such, some of them would have just killed it, they would have said it's stupid, you know, there's problems with it (II).

This connected to data suggesting that while, in retrospect, research pooling might be seen as logical and an obvious strategy in the context of Scotland, nevertheless at the time its successful introduction was not felt to be inevitable and the personal commitment and time of key members of the policy community were required to maintain HE sector wide support.

I can tell you quite candidly there have been very many difficult periods but not in the policy development, in the implementation. On the policy side of it, everyone wanted it to work... however, many needed to be convinced that it could work with real people. 'It sounds good on paper, can you actually deliver it?' (S4).

There certainly were points at which it seemed possible that the sector itself would divide in public on the issue. I mean we were very close to that a couple of times in the early stages and if that had happened... if some of the universities had gone off to the Scotsman or whatever and said 'this is a bad idea' then the Funding Council would have paused, they would have said, 'Just a minute, it's not being universally welcomed by the universities, are you sure this is welcome?' So if any Principals had broken ranks publicly, I think that would have stopped it, or... at least have knocked it away back down the track(II).

The Key Policy Actors and Their Influence

The evidence suggests that all the major groups of interest within the policy community had resources that were necessary for the successful development and implementation of research pooling policy. This is an important characteristic of policy communities specified by Rhodes (1997) and suggests a dynamic centred on the exchange of resources. It may therefore be helpful to think in terms of contributions made by actors occupying distinct roles within particular spheres of influence as they seek to advance their interests. Building on the data already

presented, in this section data relating to how participants viewed the relative contributions of the major interests will be explored in order to illuminate policy community perceptions of the key actors.

[The Scottish Government] recognise it is appropriate to delegate a lot of the implementation to the Funding Council and that they should not interfere in the detail, that their role is to ensure that the Funding Council gets a broad indication of policy priorities through the Ministerial guidance (O1).

It's been a great help that the Scottish Executive has mostly perceived there to be a sort of triangular relationship involving the Executive itself, the Funding Council and the sector it funds... and that each of the three parties has got distinct roles and responsibilities (O1).

The fact that ministers were quite willing to allow universities themselves to get on with it, I know that appeals to the universities: that they weren't being leant on, or ministers weren't meddling (G3).

I'll take the [credit] for the Scottish Executive where we can. We got a really good CSR 2004 settlement and that really helped it because there was several tens of millions more in the kitty for the Funding Council to use for this sort of activity, and a chunk of that was earmarked for research and research pooling, so that helped oil the wheels (G2).

Government, in the form of the Scottish Executive, was widely regarded as having established the broad policy priorities within which the concept of research pooling took shape. However, they were not regarded as, nor claimed to be, the originator of the idea: *'we made it happen by not doing it, if you see what I mean'* (G2). Government did provide essential support for the policy both in terms of political approval and support: *'I was only too keen to encourage it'* (G3) signalling that research pooling contributed to their strategic priorities, and by allocating the necessary financial resources to enable the policy to be implemented.

As a NDPB the Funding Council occupied a central role as the 'buffer' between the sector and government - one of the partners in a triangular relationship with government and the sector, each with notionally different roles: *'the paradigm is Ministers make policy, Funding Council designs the strategy, institutions deliver'*

(G2). In the case of research pooling however there is evidence of a blurring of roles and responsibilities, with the SFC and institutions active in policy development.

When the idea of a national approach to collaboration at the subject level emerged, the Funding Council began discussions with a group of university Principals they identified as key actors at a sufficiently early stage that the general interest in supporting collaborative activity could be shaped into the specifics of research pooling by input from the sector.

The English White Paper was being published at roughly the same time and most importantly there were lots of discussions about the competitiveness of the research base within the Council in what we would call strategic meetings; and we had breakout groups that considered models for basically maintaining Scotland's competitiveness as we moved forward - so Council members certainly had a big input and [an Edinburgh Vice Principal] for example was the Chair of our Research Committee at that time (S4).

An awful lot of work had to be done before we got into the formal procedure... and the informal bit started obviously internally, [the SFC Research Director] and I, [the SFC Research Director] in particular and then subsequently involving the Chair. Then at some point you've got to engage with the sector and it makes sense to identify the people who are the most significant people that you have to influence... Edinburgh, St Andrews, Dundee and Glasgow were present at those early meetings (S2).

[The SFC] had a challenge out to the sector, a friendly challenge: how could we reconfigure ourselves better in Scotland to be more competitive, and through joined up strategic planning between different universities in the same subject areas, can you do multi-disciplinary type structures that will also allow you to move forward in a competitive way? (S4).

I think there were two or three Principals who had the vision to see where it was going and I think there were one or two people in the Funding Council who also had that... who really moved it forward and to some extent had either the faith in it or the personal standing or whatever to actually bump it forward. And if they hadn't been around and we hadn't had that, who knows whether it would have worked. There were some quite strong individuals around at the time (S1).

The data suggest that the key actors in the early stages of pooling were the Funding Council and the group of university Principals who met with them to discuss the idea, and that they were responsible for steering the policy through to implementation.

It certainly wasn't the case that there was a Minister or civil servant came with this, essentially this came from the Funding Council officials and the university Principals who then sold it to the Funding Council and to Universities Scotland, and the consensus built up like that (I1).

I would be inclined, whether personally to the Research Director or the Chair or the CEO, to give the Funding Council some credit for having seen this idea through (I3).

*I think [the SFC Research Director] has to have credit for being able to come along and say 'we're almost at critical mass, look at physics, we've got three 5s, but we have no 5*s' so we said 'we'll have a look at this' (I1).*

It was kind of brokered by [the SFC Research Director]. You could say this was a pragmatic way of making policy. He was being quite clever in drawing little groups in and saying 'well, you really ought to be getting on with this' or he would invite [a Principal] in and say 'you know, this idea's got to be promoted by a Principal'. It was a very informal, brokering role, then of course having got the basic shape of these things in his head, he then had to go into a very formal process of getting approval from the Funding Council itself (I3).

University Principals were able to overcome the difficult issue of potential loss of an element of institutional sovereignty. They provided the leadership the policy required across the sector and within their institutions, and by recognising that individual institutional interests would be served by advancing the interests of all they demonstrated a Scotland-wide strategic perspective.

You actually have to recognise that you give up sovereignty or you give up some power, and the key drivers, in terms of determining what the research policy was of whatever the pooled unit was, cannot possibly lie within the remit of any of the institutions individually (S1).

If someone had looked at it, they would have said 'well the ultimate thing you are doing here is actually trading off some of our sovereignty because we're going to have an RAE submission that won't say [our University's name]... but it didn't phase anybody: 'let's do that' and that's the sign of a very confident institution (A1).

There was a feeling that this was going to deliver good outcomes and there was going to be mutual advantage... we were probably fortunate in the sense of the Principals who happened to be in post at the time of the discussion, I don't think there was a single Principal who felt threatened by the creation of a research pool (O2).

If the level rises in Scotland generally that's good for everyone... so if Edinburgh have got a big investment in regenerative medicine I can write a fairly strong case that says that's good for life sciences in Scotland and therefore life sciences in Dundee (I2).

It was the whole being greater than the sum of the parts; that you could actually achieve something strong in Scotland which wouldn't necessarily be done by an individual institution but it played an important part in maintaining Scotland's standing in higher education (G3).

I think both at the Funding Council end and at the Principals' end, people who were protagonists of this like myself or [the Chief Executive of SFC] worked quite hard to get everybody signed up... actually put in the face time and the telephone time (II).

Therefore, the major actors can be identified as the Funding Council, the group of research-intensive universities involved in the initial discussions, and the relevant academics from the individual research pools under development. The data also suggests that in this network governance approach (Rhodes, 2007) to policy-making the support of all parties and their contribution of resources was necessary for success. It was felt within the policy community that within the SFC the Research Director played a central role in driving the policy forward. In relation to the development of the EastChem research pool, the heads of school of the participating institutions were regarded as critical to the success of initiative, and were closely involved in the policy process: *'the policy was "let's do pooling" but how? (A1).*

We had a list of pilots, in order, physics first, then economics, then biology, then the creative arts... we were going to do them in order... now the chemists basically kicked the door down, not an institutional basis so much as on a subject basis (I1).

We formulated papers, we sent them to the Funding Council, and we said 'that's what we want, can you accommodate us? And this is what we will do, and this is what we promise, and this is what we will deliver'. We didn't get someone saying 'we want you to do this, and we want you to deliver xyz'... it came literally from us and it was all from the bottom up (A1).

There has to be an appreciation of the culture of a subject and no imposition that 'this is pooling, this is the way it works and you have to have this' (A1).

One of the striking things about the various forms of research pooling is that they have not followed a single model. And to be frank, that's helped it work. I think a very strong top down direction of 'this is the way you will do it' would have met with a lot more resistance (O1).

The support and commitment of academics was essential to the successful development and implementation of the policy. The SFC did not have the power to compel academics to behave in this way. Consequently, there was an element of exchange of resources as academics, in effect, offered new working practices and approaches and enhanced research performance in return for additional resources and coordination at the national level.

Academics were key actors in research pooling partly as a consequence of their power over implementation, but also in this case because they were brought in to the early stages of policy formulation and worked directly with the SFC on developing the policy into workable structural and procedural arrangements for the pilot research pools. Therefore, as was observed, the policy was not announced until there were research pools to announce (I2) and consequently the academics played a central role in policy development as well as delivery.

It does look from the data that research pooling was a distinctive policy approach in which the Scottish policy context exerted a strong influence. The scale and

geography of the country were held to facilitate collaboration, but also to create dense networks of relationships between members of the policy community, and this frequent contact in a wide variety of settings pointed to the importance of informal approaches and communication: *'constantly getting your ear bent and that's the nature of Scotland... that's the way Scotland works'* (G3). The distinctive Scottish cultural values of egalitarianism and meritocracy, the 'democratic intellect' of Davie (1961) were referenced, and were reinterpreted for this contemporary policy as one of the most important principles of research pooling: that pools were to be *'selectively inclusive'* (SHEFC/HE/2003/MIN5, 2003). Post-devolution Scotland was thought, through the political process, to enable distinctive policy to be developed within and for Scotland as opposed to, under administrative decentralisation, amending UK policy to fit the Scottish context. Thus in relation to the proposed strategy in England of concentrating research in a small number of universities, at government level in Scotland this was understood to be unsuitable to the Scottish context: *'there was no way as a matter of policy that I felt we could readily make that distinction in a country the size of Scotland'* (G3). Political devolution had created the possibility that Scotland could pursue a distinct policy such as pooling, but there were feelings that the Scottish policy context was diverging (eg. tuition fees) from the rest of the UK: *'two boats drifting farther apart'* (G2).

The data suggest that there was a shared view of 'Scotland' and its needs. This was felt to have its roots in a distinctively Scottish value system in which egalitarianism was prominent, and also that the Scottish nation was one in which the sense of identity is incredibly strong. Allied to this strong sense of a distinctive self was recognition of national and global competitive pressures. The need to compete against the size and economic power of England and draw on the research base to compete in the emerging international knowledge economy was recognised: the 'key to future competitiveness'. Consequently, there was an underlying awareness of the importance of research that was brought into sharp focus by Scotland's performance in the RAE 2001. That performance was felt within the policy community to be less than it should have been for Scotland *'with all its tradition, with its great strengths'*. However, the motivation of the community was also aspirational and outward

looking, to be 'completely unbeatable... on a world scale'. This conveys a sense of the connection of the local and the global in knowledge societies that is particularly intensive in academic research where it is in international communities that locally generated research must compete for recognition, approval and ultimately funding. But in a small country with limited resources and many subject areas too small to compete internationally, these global aspirations could not be met for all institutions without some way that you could gather these strengths together. Research pooling worked with issues of scale and political and cultural values to provide a way to enhance the research base without having to distinguish between institutions.

The data suggest that the shared view was sustained throughout the process because the main interests faced threats that they perceived to be 'real'. The publication of the White Paper 'The Future of Higher Education' in England acted as a catalyst in Scotland to develop research pooling as a 'direct response to something we saw in England', drawing on a propensity to collaborate since that was felt to be an area where 'Scotland possesses a clear competitive advantage over England'. The data put forward the view that the policy was influenced by the political environment, notably devolution but also aspects of Scotland's location within the larger political environments of the UK and EU. Devolution provided a new way of thinking of Scotland and its universities in relation to the rest of the UK and Europe: imagining the possibilities of the nation (Anderson, 2006). England, under devolution, could be positioned more clearly as a competitor and its proposed strategy recognised as a threat that required a response 'in order to be better than the English.' Devolution provided the political machinery that gave expression to Scottish cultural values and political priorities through a policy designed to meet a challenge facing Scotland: 'to frame things in Scottish terms' in a way not possible under administrative decentralisation. There was a significant difference observed between amending a UK policy to meet the Scottish context, as would have been required pre-devolution, and developing a policy within Scotland to meet its needs, that it was felt research pooling 'comes from the fact of devolution almost'.

The data illuminate the process of steering the policy through to implementation; how it was done and by whom. HE policy making in Scotland was under conditions of associative governance (Brown, 2001) that tended to pull the main interests into a network relationship centred around higher education and in which government retained an important role by setting national priorities, delivering guidance to the sector, and controlling the public finances as it sought 'to influence in a benevolent, beneficial, way'. That the policy idea originated within the sector rather than in government is an important feature of pooling and an insight into the process of governance through networks. It suggests that government can govern without itself having to initiate all policy, and therefore there is a resonance to the idea that: 'we made it happen by not doing it'.

The data help us understand the ability and capacity of the main interest groups involved to mobilise resources and how support for the policy was achieved. The data suggest a network of powerful groups, government, SFC, institutions and academics, each controlling resources necessary to develop and implement research pooling. Each group had reason to support pooling since it advanced their interests, and the exchange of resources within the network was an important element in enabling pooling to succeed. The rapid development of the policy occurred under pressure from threats in the environment: 'things which drive change quickly are perceived threats' and the radical nature of the policy reflected an understanding that 'the idea that you could make your way in this increasingly competitive world by just doing variants of the things we've been doing forever really didn't have much mileage'. Pooling also advanced by drawing on strong feelings of ownership of the policy among the main interests and is indicative of the difference between what people do because they have to and how they acted when they were 'creating policy to a certain extent'. Pooling also worked with academic culture and values: it recognised that the allegiance of academics to their subject is strong, possibly 'a stronger loyalty to their subject areas than they do to their university'. The process also depended on individual agency and the involvement and personal commitment of the leadership in universities, the SFC and at the subject level 'to see the bigger picture' and to trust others in the policy community sufficiently to overcome

occasional concerns that another party might 'be nipping away with the ball up its jersey'. The critical importance of trust within the policy community was stressed as 'a pre-requisite' and if lacking then 'your chance of doing something radical like this... is zero'. The policy process also worked by avoiding trying to create a 'grand plan' which might have slowed down the process. Instead it developed in quite quick stages with the main interests 'signing up to a concept, a way of working' to which they then worked 'as a potter at a wheel' (Mintzberg, 1987) crafting the policy to the point where it was ready to implement: 'we can shape this into a thing that will work' (I3). Only at that point was the community prepared to announce the policy publicly.

This section has set out and interpreted the research data in order to present an account of how we are to understand research pooling. The data support an understanding of pooling as a radical policy response, developed with a backdrop of a changing global knowledge environment and the desire at all levels, government, sector, institutions and subject areas, to be internationally competitive. These underlying challenges and aspirations were catalysed by the publication of the White Paper and perceptions of a competitive threat from institutions in England. The resulting policy originated under conditions of network governance in a recently devolved Scotland and was influenced by the historical, cultural and political context. The policy and the process enjoyed considerable support by the policy community, partly as a result of groups acting to mitigate threats to their interests, but also as a result of the strong feelings of ownership of the policy and the process that made the policy feel 'real' and elevated the engagement with the policy process to high levels of personal commitment and involvement. By involving the academics ultimately responsible for delivery at the early stages of policy development, the community integrated policy formulation and implementation processes that are often separate, securing considerable 'buy-in' and speeding up the process.

Chapter Five

Conclusions

In this concluding section I would like to consider what the data suggest is happening at a more generalised level.

Managerialism and The Contrast Pooling Offers

The experience of developing research pooling policy stands in contrast to accounts of change under new managerialism in higher education. The data convey a sense of pooling policy being a relatively 'easy' process, neither heavily contested nor resisted by the main groups of interests involved. This is in contrast with accounts of managerialism in higher education in which change is felt to be difficult to achieve and slow to occur. It is, therefore, of particular interest that such a radical policy as research pooling was originated, developed and implemented quickly and with the widespread support of the main interests involved and the sector generally. Analysis of pooling helps us to understand how policy is made and offers insights into the governance of higher education and different approaches to academic management and culture.

While the policy process involved in pooling can reasonably claim to be innovative, it also resonates with more traditional academic values and culture than with contemporary change management under managerialism: '*a more old-fashioned set of policy making*' (13). Managerialist approaches have been observed to involve, for example, more interventionist management direction and control, quasi-market mechanisms, greater centralisation of authority and decision making, standardisation, performativity, audit culture (eg. Webb, 1999; Jessop, 1993; Henkel, 2004). The appeal of the research pooling policy process however, was to older ideas of self-determination, autonomy and sovereignty within the academic community, closer to notions of the *republic of science* (Polanyi, 1962) and recognising the influence of the *invisible college* (Crane, 1972) than to 'a tightly integrated regime of managerial discipline and control' (Deem, 2007).

The process brought those responsible for implementation into the policy development process, and was successful in communicating respect for the ability of academics to self-organise and self-manage and that their input was regarded as essential. This connected directly with issues of academic identity and autonomy: the right of academics to determine and manage their own work, priorities and research agenda. Consequently, it was possible to observe of the policy and the process: *'it felt a very grown up thing to be doing. It felt mature and sensible'* (I3). This captures an important feature of both the policy and the process to which the key actors responded with enthusiasm and personal commitment: that it enabled those responsible for delivery a direct input into the shaping of the policy for which they would be accountable.

Involving academics and integrating the policy formulation and implementation phases of the policy process elevated the level and quality of engagement of the academic community significantly. There were very strong feelings of ownership: *'it was the subject that wanted it to happen'* (A3) and considerable motivation to drive the process forward, consequently it speeded up the development process: *'the papers were being generated so quickly and things were happening and meetings being set up'* (A1). It also enabled the policy community to ensure that it had a workable policy before public announcement.

In addition to academics, ownership of the policy, which is typically difficult to achieve (Trowler, 1998:81), was also felt throughout the policy community. The data support the view that the policy originated within the sector rather than being imposed by government (note later discussion of governance and steering): *'it certainly wasn't the case that there was a Minister or civil servant came with this'* (I1). This contributed to a feeling that there was less resistance to the policy than there would have been had it been announced by government and passed to the sector for implementation. It was particularly important that each of the main groups of interest felt ownership and none of the key actors felt the policy was being

imposed on them. Again, this contrasts with accounts of managerialism in which decision making, control and change programmes tend to be heavily centralised.

The data emphasise the important role of leadership in the policy process, perhaps to the extent that the process could be characterised as one of prioritising leadership over management: *'some of it is about, particularly the leadership in these institutions'* (G2) and it is instructive that the data do not describe the process as one of 'change management' or refer to it as an example of what could be achieved by new management practices. The data do, however, help us to understand the process as one of conceiving radical new possibilities of, for example, thinking differently about where the competition lay to the extent of collaborating with institutions that had been considered *'for maybe even centuries'* (S4) as competitors. The data support the view that leadership was important at all levels including, for example, the subject areas where Chemistry *'basically kicked the door down'* (I1) and in institutions and the SFC where: *'there were two or three Principals who had the vision to see where it was going and... one or two people in the Funding Council who also had that'* (S1).

The data are persuasive on how important it was for the main actors involved to work outside normal management structures until it was necessary to enter the formal committee structures. Informal meetings were important at the earliest stages of considering the policy: *'a lot of the discussion was [informal] rather than memos dictated, sent, processed...'* (I1) and *'all this happened in one evening, no notes, no minutes, it was a kind of informal discussion'* (I2). As the process unfolded the normal management structures were bypassed: *'I was really dealing with [the Principal] and so I actually, rightly or wrongly, subverted the normal chain of command'* (A1). This made the process faster and more streamlined than it otherwise would have been, and it also afforded some protection to a radical policy idea while it was worked on to make it more robust. This presents a challenge to managerialism in higher education; that an innovative, radical and successful policy change, as a matter of strategy, bypassed key management structures in its early stages of development.

In another important respect the process worked with the grain of academic culture. The process recognised that there are differences between academic disciplines or '*tribes*' (Becher and Trowler, 2001) and that it should avoid specifying and standardising the arrangements for research pools. Inherent in the process was an understanding that arrangements that would work for physics would not necessarily work for chemistry: '*there has to be an appreciation of the culture of a subject and no imposition that this is pooling, this is the way it works and you have to have this or not*' (A1). The process was sufficiently flexible to involve academics in developing different governance and structure arrangements to meet the different circumstances and needs of their subject areas. In addition to being flexible, the process was also adaptable and responsive to changing situations. The original intention had been to conduct pilots in four areas, however, when three of these areas were slow to develop, the process was able to adapt and bring Chemistry into the first set of research pools.

The data convey a sense that the policy process felt real for those involved, they understood the threats and potential gains, and appreciated the breadth of vision and the extent of the challenge in what they were attempting to bring about. The language used to describe the pooling policy process was very different from accounts of managerialism in higher education. This may have been partly as a result of the process connecting with earlier ways of thinking about academic work, culture and values, but it also reflected that research activity itself was not regarded as a mechanical process (Ziman, 2000) and, consequently, neither was the process that created the policy. It was innovative, flexible, fast moving and captured the interest and enthusiasm of the main agents involved reflected in the language of 'thrill', 'buzz' and 'sheer enthusiasm' used to describe it.

Comparing managerialist approaches with accounts of the development of pooling help us understand something of the process of steering universities in Scotland. We can see the pooling policy process as one of rejecting 'hard' forms of managerialism and governance, characterised by imposed solutions, rewards and punishments, and a

view of academic staff as '*incapable of self-reform or change*' (Deem, 1998:53) in favour of 'soft' forms that the policy community understood were more suited to academic culture. The data suggest that this form of soft governance drew people into the policy process, tapping into the motivations and commitment of the academic community to produce an effective policy shift.

The next set of conclusions address the workings of the policy community and its role within the form of government described as network governance.

The HE Policy Community and Effective Network Operation

The data are set in the context of key aspects of the literature. They provide an insight into networks and the way they operate, and also illuminate the role of networks in steering higher education. Further, they enable us to draw conclusions as to what was going on within the policy community as the policy developed.

The literature suggests that policy networks can be thought of as: *'webs of relatively stable and ongoing relationships which mobilise and pool dispersed resources'* (Kenis and Schneider, 1991:36). The processes by which these relationships and resources are mobilised to produce a course of action are generally not visible, since as Raab observes: *'the games of a policy network go on behind relatively closed doors'* (Raab, 1992). This section provides an insight into the inner workings of the policy community as it was engaged in developing pooling policy from the perspective of those involved. It relates this to key aspects of the policy network literature including trust, diplomacy, shared understanding and interpersonal relations (Rhodes, 1997; 2007) before connecting networks to government steering.

Trust

The literature draws attention to the importance of trust within the workings of networks and policy communities. McPherson and Raab (1988) identified the importance of personal trust within the Scottish education policy community, specifying that it was a *'constitutive property'* of the network (Raab, 1992:81). This is consistent with findings from Heclo and Wildavsky's (1974) study of the Whitehall policy community that noted *'the vital importance participants place on personal trust for each other'* (Heclo and Wildavsky, 1974:15). Rhodes argues that it is one of their distinctive features that *'networks are characterized by trust and diplomacy'* (Rhodes, 2007:1246) and suggests that trust, and the cooperative behaviour it engenders, is an important component that distinguishes networks from markets characterised by prices and competition, and bureaucracies characterised by authority and rules.

The data enable us to conclude that trust was essential to the development of a policy that required radical change from competition to collaboration, and for the different groups of interest to commit to the exchange of their resources. The Funding Council, for example, were able to commit resources because they trusted the institutions and academics to deliver on their commitments:

They know the community membership quite well... they felt they could take a risk with this community and the community would not be out to undo them but it would be out just to have a success (O2).

This was directly related to issues of trust within the community and it was thought essential that *'the funding organisations and personnel were trusting the researchers to deliver'* (O2). The need for trust was essential to making progress on difficult issues including, for example, changes to institutional and academic sovereignty *'where you actually have to recognise that you give up sovereignty or you give up some power'* (S1). Had there been an absence of trust then the necessary cooperation, willingness and enthusiasm are unlikely to have been there, and the policy process would have been slowed or stopped. At the subject level, trust was also essential to the collaborative pooling arrangements under discussion: *'there has to be honesty and to go with honesty there has to be trust'* (A3). Trust was also considered essential to radical thinking within the community, and in the early discussions it helped: *'build up real trust... then it is possible to make a policy leap'* (I1) and: *'[trust] more than helps, it's a pre-requisite and if there is a serious lack of trust then your chance of doing something radical like this, I think, is zero'* (I1). The data enable us to conclude that trust was fundamental to how the policy community operated, and support the significance accorded to trust in the literature.

Diplomacy

The data suggest that the relationships within the policy community were characterised by diplomacy, and this was apparent in the fundamental structure of the community as a *'triangular relationship'* where government recognises that *'each of the three parties has got distinct roles and responsibilities'* (O1). In relation to pooling there was a clear understanding of the need for the backing of the whole

sector in supporting the policy: that it could not proceed faced with opposition. The way forward was characterised by diplomacy and involved emphasis on not taking resources from, for example, teaching since *'if the unit of resource for teaching had dropped while the resource for pooling had been added, then there would have been pandemonium'* (I1). Therefore, there was a need to focus on *'constructing a composite position... that can be supported by all the universities'* (I1). Diplomacy was also commented on in terms of the relations between SFC officers and the institutions: *'he was being quite clever in drawing little groups in and saying "well, you really ought to be getting on with this"'* (I3). It was also evident at the level of government where the proposition that *'ministers weren't meddling'* (G3) was understood to appeal to the universities and at the subject level where, for example, academics were brought into the policy process and *'an appreciation of the culture of a subject'* (A1) was demonstrated in flexible arrangements of structures and governance. Indeed, the principle of selective inclusivity underpinning pooling itself could be viewed as an example of the skills within the policy community that enabled it to hold the sector together on the issue.

From the data we can conclude that the exercise of diplomacy was essential to how the community operated to produce pooling and that they support Rhodes' view that networks are characterised by trust and diplomacy. From the data we can also form the view that both were necessary: trust without diplomacy would have lacked the necessary dynamic, and diplomacy in the absence of trust would have risked being construed as manipulation, or an attempt by one group to exploit others in order to advance their own interests and therefore introduced instability into the process. Trust was the essential resource that helped overcome occasional feelings that one party might be *'nipping away with the ball up its jersey'* (I3), and the deep understanding and skill embodied in diplomacy was required to hold the diverse higher education sector together on the issue and prevent *'pandemonium'* (I1).

Shared Understanding and Assumptive Worlds

Marsh and Rhodes describe one of the characteristics of a policy community as being that there is *'consensus, with the ideology, values and broad policy preferences*

shared by all participants' (Rhodes, 1997:43) and the data support this view. A preference for collaboration was evident, as was a collective desire that Scotland improve its research standing. There was also an understanding of underpinning values, egalitarianism, meritocracy, fairness and community encapsulated in the Scottish myth and in the idea of democratic intellectualism, and the data provides support for the suggestion that these *'shared values and norms are the glue which holds the complex set of relationships together'* (Rhodes, 2007:1246). It was also understood that these values were expressed through political preferences. For example, where a few institutions would receive most of the research funding under the RAE, in contrast with England *'it's always been smoothed out... so that hasn't happened in Scotland'* (A3), and in preferences for mitigating some of the divisiveness of competition: *'there's a feeling of a bit more fairness and everybody's got to get a wee share of things'* (G1).

These shared understandings have been characterised as assumptive worlds (McPherson and Raab, 1988) and the data suggest the existence of an assumptive world of higher education in Scotland and that, in relation to pooling, it exerted a strong influence on what the community thought desirable and achievable. The processes of socialisation by which individuals acquire beliefs and dispositions within the community connect to the concept *'habitus'* (Bourdieu, 1993). This is argued to provide the *'feel for the game'* such that those in the policy community knew instinctively what would, and would not, work in the context of Scotland. The data convey a sense of individuals with substantial experience of higher education able to quickly understand the possibilities of pooling in the Scottish context and demonstrate a feel for the game, for example: *'I came away from that first encounter thinking this feels right'* (I3) and: *'the deduction was it was politically impossible, and I think that intuition was correct'* (I1). The data enable us to conclude that there was a shared understanding of the changing environment, of the major threats posed, of what was acceptable and workable in the political and cultural context of Scotland and of academic culture and values, and that this was consistent with the concept of an assumptive world within the policy community. The data also enable us to

conclude that this shared understanding, combined with the feel for the game contributed to the speed of development of pooling policy.

The Role of Individuals and Interpersonal Relationships

The data emphasise the importance of individuals to the policy process and give priority to individual agency over structures. For example, that the SFC had a structural relationship to the institutions was important, however, it was felt that it was the contribution of individuals and personal relationships that made pooling happen: *'you cannot underestimate the influence of individuals within any sort of policy change'* (S1) and: *'I come back to the importance of the individual, in that there were individuals in key positions at the time that wanted to try and change the structure'* (A3). There were felt to be individuals who: *'worked quite hard to get everybody signed up... actually putting in the face time and the telephone time'* (I1) and *'the reason it's different from an incremental improvement is one person came in [the SFC Research Director], had the guts to try and was able to persuade other people... I don't think it would have happened without him'* (A2). It was also observed that there were individual Principals and SFC officials *'who really moved it forward... and if they hadn't been around and we hadn't had that, who knows whether it would have worked'* (S1). On the basis of the data, we can conclude that the role of individuals was felt to be paramount in moving the policy forward.

The preceding discussion of the importance of trust within the policy community also alerts us to the importance of interpersonal relationships: *'having good relationships with people is important, because you can approach them, you can speak to them, you can drive things forward if you've already established a working relationship'* (A3) and therefore: *'personal relationship is important, absolutely totally critical'* (A1).

The data also suggest that within the policy community there was a strong role for the informal element of relationships and it characterised the early rapid development of the policy: *'he had to do an awful lot of informal work, including talking to individuals, talking to groups... [it] allows people to reach an*

accommodation, which then allows a proposal to be drawn up' (S2). The literature suggests that, even though formal meetings were important in their own right, they were *'important also for the informal opportunities [they] afforded'* (McPherson and Raab, 1988:464) and the data supports this view, for example:

That was very important, that was happening all the time, you know, around the edges. Relatively early on [we] were at a really boring universities meeting in Oxford, and we took off for the best part of an afternoon going over, in quite a systematic way, every possible dimension on which our universities might cooperate. And I think the Scottish Principals do that routinely (I1).

Research pooling also provides two instances of how a policy community operated differently from theory.

Leadership and Compliance

There was an element of the theory of policy communities to which the data stood in contrast: *'that the structures of the participating groups are hierarchical so leaders can guarantee compliant members'* (Rhodes, 1997:43-44). In the case of research pooling, there was nothing in the data to suggest that compliance could be guaranteed. The opposite was the case, it was evident that government would have encountered difficulty in compelling the sector, that the SFC could not guarantee that institutions would agree to support the policy, and institutions could not guarantee the compliance of the subject areas, indeed even within the subject areas *'there was a hearts and minds piece of hard work with the staff'* (A1). This suggests that the higher education policy community has an additional layer of complexity, that power and resources are widely distributed, making compliance difficult to guarantee. This serves to heighten the importance of relationships, trust and diplomacy within the higher education policy community in order to secure the necessary exchange of resources to pursue a policy. We can therefore draw the conclusion that it is possible to have an effective policy community in which leaders cannot necessarily guarantee the compliance of their members.

Policy Communities and Incremental Policy

There was another important feature in the theory of policy communities that the data also contradicted. This related to the suggestion in the literature that policy communities tend to produce only incremental change rather than anything more radical, that they: '*are the most resistant to change... in short, change is incremental*' (Rhodes, 1997:13). Research pooling, however, provides an example that contradicts this assertion. The data enable us to conclude that the community produced an innovative, radical policy that changed the nature of institutional relationships and the focus of competition. The example of research pooling, therefore, suggests that it is possible for policy communities to undertake radical policy initiatives. In pooling, this occurred when the community was faced with a serious threat to its interests combined with long standing concerns over the performance of the Scottish research base and ambitions on the part of the groups concerned to significantly improve their international competitive position.

Governance and 'Steering' of Higher Education

It is also important to take account of another feature of networks: that the policy community formed part of a system of network governance within the Scottish political system (Kenis and Schneider, 1991). Such a system recognises that the traditional, hierarchical approach to governing has limitations (Jordan and Richardson, 1983) and it describes a shift from government '*by strong executive to governance through networks*' (Rhodes, 2007:1247). Implicit in governance is the idea that government draws in other interests to the policy making process, and whilst it may not exercise direct control '*it can indirectly and imperfectly steer networks*' (Rhodes, 2007:1246). While the shift to governance may be '*benevolent*' (G2) it nevertheless remains a form of government steering.

We can observe a tension in the data between data that suggest research pooling originated in the higher education policy community itself rather than coming from government: '*it certainly wasn't the case that there was a Minister or civil servant came with this*' (I1) and data suggesting government steering by establishing priorities, expectations and outcomes, and '*trying to influence in a benevolent, beneficial way without telling universities what to do*' (G2).

One way of resolving this is to view both positions as valid accounts of what was going on, and the development of pooling policy as an example of effective network governance. Interest groups were closely involved, the policy community 'owned' the policy, the policy itself was radical and represented a step forward that government felt they could not have achieved, it was developed and implemented relatively quickly, with the support of the community and government, and was widely regarded as successful. There is a sense in which the way government interacted with the community enabled it to access the resources of the network and this resulted in the community producing a policy outcome that government could not achieve by itself: '*we as government wouldn't have said 'right, Edinburgh, Aberdeen, Glasgow, St Andrews, you're going to collaborate on medical pooling'... because that just would not have happened*' (G2). From the data we can conclude

that when the policy community realised there was a potential threat it was able to respond by mobilising resources and developing policy because it understood not only academic culture and values, but what would meet government needs and expectations and what it would likely support and fund. Viewed from this perspective, steering appears as a process over time (Trowler, 1998), and comprises the policy and guidance output from government as well as a range of other communications, consultations, relationships, meetings and discussions, both formal and informal, the '*constantly having your ear bent*' (G3) that occurs within the policy community and helps create mutual understanding. In a non-technical sense this can be thought of as a discourse of government leading to the policy community coming to see policy in terms of what is possible politically – in effect to see policy in the same way as government. This relates to the issue of the power of discourse (Foucault, 1977) and that the policy community viewed the policy options in fairly similar ways in respect of what government would support suggests that the discourse has the effect of steering the language away from alternative ways of thinking and towards a single conceptual approach (Trowler, 2001). For example, there was consensus on the preference of government: '*to think that collaboration was a good thing*' (O1) and that the major alternative to pooling (additional funding for a small number of institutions) was: '*politically probably impossible to deliver in Scotland*' (S2). We can draw the conclusion that while the *idea* of research pooling originated in the sector, the *possibility* of pooling was influenced by a number of factors including government and the external environment as well as the community itself.

In addition to understanding steering as a process over time, the data suggest we should conclude that government also acts to steer specific situations, and this was apparent in the case of pooling. Government controlled access to the public finance necessary to make pooling happen and its preparedness to take pooling on board: '*I was only too keen to encourage it*' (G3) was signalled by being prepared to finance the policy through the forthcoming Comprehensive Spending Review. Government control of finance was held to '*drive behaviour whether people like it or not*' (S1). Additionally, when asked whether the additional finance could be used to strengthen

research in institutions without creating research pools, SFC asserted that the money could only be gained from government if used for pooling. That all parties understood that funding was being used to steer was clear in the data and exemplified by the protestation: *'it's kind of the oldest trick in the book!'* (I2).

The data enable us to conclude that under network governance, government was engaged in steering the higher education policy community and that this had an influence on policy community understanding of what might be possible as a policy response to the major threat it perceived. In addition, once the sector had produced the policy idea, government also steered by signalling political and financial support. Network governance, therefore, provided a context for the policy community to proceed to develop a policy by itself, but one that the community understood would meet with government approval, and this is captured in the observation: *'how did you make that happen? And we made it happen by not doing it, if you see what I mean'* (G2).

Policy in Scotland and the Opening Up of New Possibilities

It is an important feature of pooling that it developed in Scotland, and this section will attempt to draw conclusions, based on the data, about the influence of the Scottish political and cultural context on policy to help us understand what pooling has to say about policy in Scotland.

Political

The challenge of how to resource and sustain an internationally competitive research base to compete in a global knowledge economy was common to many countries, including those within the UK. The way in which Scotland chose to meet this challenge was different from England however, and pooling helps us to understand this ability of Scotland, post-devolution, to respond to global changes and threats '*in a distinctively Scottish way*' (Paterson *et al.*, 2001:148).

Pooling provides an example of the way the Scottish government set out to govern. The post-devolution political process in Scotland aspired to move from a restricted view of government by strong executive to a more inclusive form of associative governance (Brown, 2001). Keating has argued this was necessitated by relative weakness in policy support within the Scottish government which devolution has exposed: '*this dependence on outside bodies for knowledge and policy ideas is one factor encouraging a more consensual policy style in Scotland*' (Keating, 2005:106). The experience of pooling raises the question of whether it is necessary or desirable to move closer to the strong policy capability of the Westminster government. Moore and Booth observed that Scotland, even prior to devolution, was characterised by: '*a pattern of policy networks*' (Moore and Booth, 1989:29) and pooling has demonstrated that it is possible to access the policy capability within these communities through associative governance. As pooling makes clear, there is a significant difference between the way the sector would have responded had pooling been developed by a government think tank and given to the community to implement, and the speed and enthusiasm with which it reacted when government signalled support for a policy that the policy community had developed. Associative

governance can be seen to work because knowledge, expertise and ideas are resources that the policy community is able to contribute to the relationship with government. If policy ideas come to be dominated by government, then one of the roles of the policy community is diminished and the concept of associative governance undermined. In the case of pooling, this innovative, radical policy development would have been more difficult to achieve, or perhaps it: *'just would not have happened'* (G2). The insight contained in the observation: *'we did it by not doing it'* (G2) is especially relevant since, for government, steering through associative governance, drawing in the main interests and accessing their knowledge, expertise and ideas proved a productive strategy.

Pooling helps us to see the process of policy divergence between Scotland and the rest of the UK in action. Keating observed that: *'there is now greater scope for independent policy making and for divergence from the line set in London'* (Keating, 2005:168). Pooling is illustrative of this in action. Policy intentions in England were perceived as a competitive threat by the Scottish universities, and while there is nothing to suggest that it was intended as such, it nevertheless provoked an immediate competitive reaction. The development of pooling was in part a competitive response to a perceived threat from a larger competitor and pooling a policy response: *'in order to be better than the English'* (I2). It suggests that the positioning of England as a competitor is, if not new culturally, then easier to respond to through the devolved political process.

In addition to helping us understand policy as a competitive response, pooling was also indicative of another feature of post-devolution policy in Scotland: policy designed from the outset to meet the needs of Scotland. Pooling is therefore one of an emerging set of policies that are not, as under administrative decentralisation, re-worked versions of UK-wide policy, but *ab initio* Scotland's own policy. Pooling helps us to understand the process of divergence as one of acting to protect Scottish interests with policies designed to meet the Scottish context. One outcome is the view of Scotland's policy relationship with the rest of the UK as one of: *'two boats that are gradually drifting farther apart'* (G2).

However, while there are pressures towards divergence, Scotland and its universities remain within the UK political system and policy community and, therefore, there are also pressures to ensure a measure of policy coherence across the UK. It is also the case that different policy approaches by countries within the UK have effects on each other. As Lynch observed over the issue of student tuition fees when pressures began to mount in England to match the arrangements in Scotland, there was a sense in which Scottish policy could be seen as: *'the devolved tail wagging the UK dog'* (Lynch, 2001:148). The success of pooling in Scotland has been looked at as a possible model for regional pooling in England.

Cultural

Research pooling helps us to understand how policy is influenced by the cultural context, in particular the Scottish myth of the inherent egalitarianism of the Scots: *'we're more egalitarian, less elitist if you want to put it that way'* (A1). The values of the Scottish myth are transmitted within the Scottish community through education and the experience of living in a: *'close-knit community where a high level of individual contact is possible'* (Moore and Booth, 1989:29) and where individual and network contact tends to *'Scotticise everyday social interactions'* (McCrone, 2001:45). These values form part of the *'assumptive world'* of the policy community (McPherson and Raab, 1988) in such a way that when faced with a policy choice the values indicate what is culturally acceptable: *'you'd never have got Jack McConnell talking about Scotland's top universities, because that's not how we behave here'* (I2).

In addition, we can see that research pooling is directly related to one of the defining statements of the values of Scottish higher education, that of the democratic intellect (Davie, 1961). The main underpinning principle of research pooling, the principle that enabled the diverse university sector to support the policy, 'selective inclusivity', is a contemporary formulation of the idea of the democratic intellect, that there is equality of access subject to a measure of intellectual ability or standard. As with the democratic intellect, 'selective inclusivity' combines elements of

egalitarianism and meritocracy that resonate in Scotland. Pooling, therefore, provides us with an example of a connection between expressed cultural values and policy, and conveys a sense of cultural continuity.

The connection between values and policy is an important aspect since values must find contemporary expression and relevance if they are to continue, and pooling illustrates a mechanism for embodiment and transmission of cultural values and continuation of the Scottish myth.

Research pooling is of course more than a policy, it involves the creation of new entities, relationships and behaviours, and in this it provides support for McCrone's observation that: *'the role of the 'Scottish myth' has been to translate national distinctiveness into institutional characteristics'* (McCrone, 2001:100). Post-devolution political autonomy in Scotland has provided a mechanism for cultural values, the *'collective narrative'* to influence policy outcomes and the structure of university research.

Pooling, having been influenced by the Scottish myth and the democratic intellect, now provides a contemporary example of it and serves to reinforce what we believe and the story we tell about ourselves: *'the constant renewal and retelling of our tale by each generation'* (Smith, 1986:208). Pooling now forms part of the collective narrative of national distinctiveness that suggests that England, faced with global pressure to produce and sustain internationally competitive research, responded by emphasising competition and exclusivity within its higher education sector while post-devolution Scotland, faced with the same challenge, responded by enhancing collaboration and inclusivity. Pooling also continues the development of the narrative by its emphasis on *'collaboration'* and reinforcing our view of ourselves as collaborative: *'we thought we could do collaboration a hell of a lot better than England could, and so it has proved'* (S2). It emphasises collaboration both in the policy and in the practical example of the research pools and provides the possibility of new emphasis in the narrative: that Scotland's universities are more collaborative than their counterparts in England. Therefore, to Keating's observation of differences

in governance approaches between England and Scotland: *'the English approach continues to emphasise management, regulation, differentiation and competition, while the Scottish approach stresses professional autonomy, consensus, egalitarianism and policy learning'* (Keating, 2005:180), to the Scottish approach may now be added *'collaboration'*.

Pooling is connected in this way to sustaining the 'idea' of Scotland, the 'imagined community' of Anderson since *'Scotland is sustained as a nation through its institutional practices'* (McCrone, 2001:47) and it is also sustained symbolically, and to the extent that pooling elevates 'collaboration' and encourages us to think of ourselves as more collaborative, it provides new possibilities within the imagined community.

Research Pooling at the Nexus of Travelling and Embedded Policy

Research pooling provides an example of policy developed at national level in a global context, and helps us understand how the policy process is played out at the centre of this global-local interaction (Urry, 1998:7). When we look at the points made in the findings and conclusions thus far, we can see that they add up to a way of understanding policy, that they accumulate in such a way that we are able to draw a further conclusion: that travelling policy is translated by the local into workable policy in the specific context, a form of vernacular globalisation (Appadurai, 1996). In this way, pooling illuminates the debate between convergence and divergence, and tells us something about the complex relationship between travelling and embedded policy.

Globalisation is argued (eg. Dale, 1999:4) to create pressures on nations and governments to compete in the global knowledge economy, and pooling suggests this is the case in Scotland where, within government, research was perceived as *'the jewel in the crown'* and the *'key to future competitiveness'* (G1) and it was understood that: *'if you're going to be competitive in the 21st century, investment in knowledge, in learning, I think it's absolutely crucial and that's certainly recognised within the Executive'* (G3). The literature suggests that these pressures encourage nations to search for strategies to make themselves more competitive and some common responses have been observed including prioritising science and technology research, linking university research to industry and reorganising higher education (Slaughter and Leslie, 1997; Dale, 1999). These travelling policy solutions are characterised by a general theme that: *'tightens the bond between the economy and education'* (Ozga, 2005e:119).

From some perspectives the process of globalisation is held to be so powerful a phenomenon that it produces homogeneous policy responses at the national level regardless of local political and cultural context, identity, traditions, networks and institutions (Angus, 2004). Pooling suggests that this need not be the case and supports the view that while globalisation creates broadly similar patterns of

challenges for nations: *'globalisation cannot be reduced to the identical imposition of the same policy for all countries'* (Dale, 1999:2).

Pooling presents us with a more complex understanding of the way the encounter between travelling and embedded policy is played out. It suggests that similar pressures and challenges produced different policy responses in Scotland and England that were attributable to the strength of embedded factors including political and cultural factors, history, tradition, networks, institutions and practices. The nature of the response was also influenced by the workings of the policy community. As has been observed, the policy outcome was highly dependent on trust relationships and felt to be strongly influenced by individual agency, those key individuals who: *'if they hadn't been around... who knows whether it would have worked'* (S1).

The development of pooling policy, however, suggests a complex interaction between the global and the local: that pooling cannot be fully accounted for as the product of a policy community acting free of the context of international forces, trends and policies, yet at the same time pooling conveys a sense of being more than simply a varied response to a global move towards enhancing research competitiveness.

Pooling appears as more than just another thing to be done to respond to local, national and international changes in the environment. Pooling suggests that policy-makers can choose how they respond. England responded by increasing the emphasis on the research capability of elite institutions, while Scotland chose to emphasise collaboration between institutions and creating research pools open to researchers regardless of the institution they belonged to, on the basis of the quality of their work. Research pooling illustrates that policy responses need not be formulaic and it also challenges any impression of passivity or being subject to control that might be associated with the term 'respond'. Instead, research pooling presents a persuasive account of initiative being seized at the local level and, in the manner of the response, pooling provides an insight into the relationship between travelling and

embedded policy: that it contains creative potential. The idea of pooling captured the individual and collective imagination within the policy community. It was imaginative in concept, dealt with 'real' issues, was alert to the sensitivities involved in academic research and within the policy community, it was historically and culturally embedded, and aligned to political agendas and objectives, and it provided a new approach to achieving the quality and critical mass required to compete internationally. From the data there is the sense that its boldness surprised the policy community, for example on sovereignty: *'I was really quite surprised that actually happened'* (G2); on the enthusiasm of academics for pooling: *'I think that took everybody by surprise'* (S1) and also surprise at the readiness of institutions to collaborate to the extent required by pooling: *'it's not an easy thing, it's easier to talk about than it is sometimes to do'* (G3). It was a sufficiently bold and radical idea that it was not obvious it could be brought to implementation. However, once set in motion, the policy community acted swiftly to produce an innovative change to the 'research landscape' of Scotland and this now interacts with travelling policy as a model of how a small country can deal with maintaining its international competitiveness within the global knowledge economy.

The processes associated with globalisation are often discussed in negative terms, however, as has been observed *'one of the fundamental characteristics of globalization is that it can revitalize local institutions and formations'* (Ozga, 2005e:125). Pooling tends to support this observation. The new arrangements involved rethinking relationships and structures and reconfiguring people and resources in an imaginative way in order to improve competitiveness. However, since pooling arrangements have not happened everywhere, and in England a different approach was preferred, pooling also alerts us to the importance of local context and policy actors in determining the response. One of the features of pooling is that it was a creative, innovative response to a competitive threat from England that at the same time improved the ability of Scottish institutions to compete internationally in research. In reorganising resources and relationships, and exploiting advantages Scotland has in terms collaborative potential pooling can be said to have re-energised and provided fresh impetus in the academic areas involved. It constitutes an

innovative strategic response to global pressures in which institutions that have competed '*for maybe even centuries*' (S4) entered into nationally coordinated, pan-Scottish research collaborations in which some of their researchers joined together in new flexible and responsive entities, and it also appealed to the academic community, drawing it in through its innovative approach and its offer of enhanced academic creativity: '*the combination of different interactions and sparking of ideas and synergies and camaraderie*' (S4).

Pooling's creativity changed the way institutions perceived themselves and their relationships and also the way they are perceived by SFC and government. Where previously institutional structures could be thought of in some sense as: '*billiard balls with perfectly defined surfaces and they kind of bounce off each other but they always maintain their perfect shape unchanged*' (S2) pooling provides a model of increased permeability and fluidity based on the creative development of structures, relationships and practices. In this way, the global challenge of how to develop and sustain world class research as a basis for competing in the global knowledge economy brought forth from the local policy community a highly creative response that has made a contribution to revitalising institutions and the subject areas with which pooling is concerned.

Even though the general thrust of travelling policy, capitalising on productive knowledge for national competitive advantage, needed to be addressed, policy-makers structured their responses in the light of local influences in their search for policies that were deliverable and workable in the local context, in a sense '*pragmatic*', a term used frequently by policy makers to describe how they felt they approached the policy process, for example: '*it was more pragmatic than that*' (I1) and: '*how, in a pragmatic way, can we avoid doing that?*' (G2). This tends to support the view of policy as '*a search for pragmatic solutions that are workable in the specific context*' (Ball, 1998:126).

However, even though embedded policy resulted in a distinctive response, pooling also illustrates that it is the same global pressure to which each country or system

seeks the most appropriate response for its situation. Therefore we can see that, although different in character and approach, the policy in England and in Scotland had the same ultimate aim, that of enhancing the production of internationally competitive research in order to compete more effectively in the global market place:

Essentially you're doing the English White Paper but you're doing it horizontally rather than taking the vertical slice of saying that Cambridge and Oxford are good from the ground right up to the top. So, it was just a different cut but it would be delivering a very similar sort of result (O2).

Pooling is illustrative of how a small country was able to find a way of responding to a series of challenges arising in the global and national environment. However, once the response was developed and the new pooling arrangements in place then it is possible to see a more complex relationship between the global and the local: that globalisation in the form of travelling policy can only find expression in the local context, and that once change is enacted at the local level it then exerts a corresponding influence on the global by creating new models, possibilities, language, relationships, policies and procedures. It has been argued that '*all globalization is local*' (Douglass, 2005) and pooling provides a new understanding of how a small country can organise resources in order to respond to the pressures of globalisation. It directs attention to a model of how to respond in which contextual factors are recognised and worked with, the ability to take the initiative, and to be bold and creative are prioritised in developing: '*a model which really played to our strengths*' (S4).

The Future of Pooling in Scotland

In this section some tentative conclusions are drawn on the future of pooling, what it might lead to, its sustainability, the wider possibilities it opens up and whether there is likely to be an acceleration of pooling under the nationalist government in Scotland.

Since the first two pools were announced in 2004, the number of research pools has continued to increase and as of August 2009 there are nine main pools operating, some of which contain 'sub-pools' within an overall Scotland-wide structure. From one perspective this is indicative of the success of the policy initiative and its resonance within the higher education sector: *'we've actually gone further more quickly than I ever thought we would, it does seem that we've struck a chord'* (S2). It is also indicative of moves toward greater coordination of research at a national level in the context of growing and more explicit alignment of higher education with government objectives and the needs of the economy. There may, however, be constraints on the continued expansion of research pooling since it is possible that not all subjects or areas of research would benefit from pooling as a strategy: *'one's got to be very careful not to say this is the only way forward, it's not... one's got to be quite ruthless in saying "does this mechanism produce better research than could be achieved by funding the whole thing in one institution?"'* (S1), and therefore avoid pooling becoming: *'an answer looking for a question'* (I2). It is also possible that pooling may lead to different forms, combinations and structures of pools, or to the intensification of relationships between institutions in certain areas: *'the question I used to ask myself was, if you're starting this research pooling, when do you get merged departments, and how far does rationalisation go'?* (G1). Pooling shows that the boundaries of institutions are not as rigid, inflexible and sharply defined as may have been thought. Staff and physical resources can be shared within a pool and institutional identities have not suffered. The flexibility and fluidity of a pool can be incorporated into university structures and serve as a powerful linking mechanism between institutions that also has the potential to blur distinctions between institutions in key research areas. The underlying issue is that pooling introduces a

new element into higher education research that has the capacity to evolve in different ways, and that is acknowledged:

It hasn't escaped our attention that we need to address the question 'is this a stable position or is it a stepping stone to somewhere else'? If it's a stepping stone to somewhere else, what would that look like? (S2).

On the question of sustainability there is a clear tension since now that pooling is operational, for those within the pools and indeed policy-makers, it is difficult to conceive of reversing the policy and returning to pre-pooling arrangements. Pooling was viewed in terms of '*crossing the Rubicon*' (A1), and the policy would be difficult to abandon for political, cultural and academic reasons. Yet at the same time, in order to be sustainable pooling must make the transition from joint SFC and universities funding to financial sustainability through some combination of research income, operation within university budgets, and/or continued SFC support.

It is also evident that pooling has had a major impact on the structure, governance and practice of research to the extent that it is felt to have changed the research landscape in Scotland, for example: '*it's quite clear it has... we had an RAE meeting yesterday, discussing the fine detail of our submission with the professor from [another institution] in the room... as an equal partner in determining the strategy for the submission. That's a big change*' (I1). Changing the research landscape also has the effect of changing what government think of as possible within higher education, as emerged in the data: '*you can start to have a language around that [pooling] because people have seen it. And if it starts to work and it starts to deliver... that might actually warm up institutions to look at doing things in different ways*' (G2). The language of pooling has contributed to elevating collaboration in higher education to a government priority: '*collaboration between universities and universities and colleges is part of our ambition for universities in the 21st century*' (Scottish Government, 2008:20). With the publication by the Scottish Government of the Report of the Joint Future Thinking Taskforce on Universities, *New Horizons*, (Scottish Government, 2008) the Scottish Government can be seen to be moving towards aligning higher education and research more explicitly to the ambitions of

government and the needs of the economy when it sets out the issue of: *'universities accepting the challenge of using Government funds to deliver against the National Outcomes, thereby aligning publicly funded activity against the Scottish Government's Purpose and Strategic Objectives...'* (Scottish Government, 2008:25) and ensuring that the SFC align with *'the new direction set by the Scottish Government – focusing on outcomes, ensuring alignment [with] the Scottish Government's policy framework (particularly its economic and skills strategies)...'* (Scottish Government, 2008:29).

It has also created a new element in the exercise of 'soft' governance of higher education in Scotland: that of steering the sector towards the pooling of teaching resources across Scotland:

Shape and collaboration also caused the Taskforce to consider how teaching and research might continue to change in the future. We understand the challenges of universities working together on the delivery of teaching while maintaining inter-institutional distinctiveness. We also understand that there are some limits to the efficiencies that might be possible through teaching pooling – for example efficiencies of scale around providing laboratory facilities are limited. Yet if we are to maintain delivery of a wide range of subjects across institutions, especially in remoter areas, the extension of the pooling approach beyond research into teaching is an option for future development (Scottish Government, 2008:20).

The introduction of research pooling has changed the emphasis in the dialogue between government and the higher education sector in Scotland. Prior to pooling, government steering on collaboration was at a distance and the successful development of research pooling could be attributed to making it happen 'by not doing it'. As the above extract illustrates, post-pooling, government appears more directive that the sector consider ways to implement teaching pooling. In this context it is illuminating to reflect on the data suggesting that had research pooling been felt to be imposed then it would have failed to secure the buy-in, support and commitment that it did, and would likely have encountered more resistance and a slower process of policy development.

Pooling provides a conceptual basis for steering the higher education system in Scotland. It involves coordination of the research aspects of subject areas at national level and demonstrates the ability of institutions to work together on a pan-Scottish basis. It provides support for government in the view that higher education in Scotland is one unified entity and can be steered as such. The post-devolution increase in the availability of data on the sector in Scotland (Arnott and Ozga, 2009) enables the view that the sector can be managed to be actioned. In the case of pooling, it was the availability of SFC analyses of the structure of the sector and its performance in RAE 2001 that provided the evidence base necessary for policy-makers to decide on pooling as a radical policy initiative. However, while identifiable as a separate system, HE in Scotland is formally but not yet fully devolved and there is still an attempt to create consistency in higher education across the UK, as for example in the UK-wide research assessment exercises. Pooling is a successful policy developed in the context of Scotland, yet in focusing attention and funding on collaboration *within* Scotland it also tends to reinforce the distinctiveness of the Scottish HE sector compared with the rest of the UK.

Pooling also has reputational benefits for government. It presents an image to the international community of Scotland as imaginative, distinctive and world leading in innovative collaborative initiatives in higher education and research. In so doing, it increases the prestige, importance and political visibility of the sector however it also increases the pressure to continue to demonstrate the creativity of Scottish higher education in a globalised world.

In addition, pooling appears as an example of repositioning by governments towards increasingly sophisticated forms and use of network governance in a 'project' of governing that recognises and works with interdependencies in the political and policy-making communities, while at the same time '*enabling and promoting a new sense of responsibility and capacity*' (Arnott and Ozga, 2009:4). The existence of high levels of trust and shared understandings within the policy community, relationships characterised as operating '*cosily*' (G2) and the ability of the network to draw people into a process in which they can mobilise resources and advance their

interests in such a way that everyone gains, has the appearance of the inclusivity and involvement in decision making that are the favoured approaches of the post-devolution Scottish Government. While the groups within the policy community may be satisfied with advancing their interests and improving their positions, this soft governance nevertheless remains a form of *government*, albeit one in which the policy community acts not to challenge relations as much as to maintain them. As a result of this process of governance, universities are becoming more closely aligned with global changes, government strategic objectives and the needs of the economy and this is achieved without dispute. In this, network, or soft, governance can be viewed as a form of: 'governing the soul' that is:

Governing by acting on the choices and self-steering properties of individuals, families, communities and organizations... opening free space for the choices of individual actors whilst enwrapping these autonomized actors within new forms of control (Rose, 1999:xxiii).

Thus, it is possible to see developing in Scotland a higher education policy community with increasing space to formulate policy according to its needs but which, however, becomes increasingly tied to outcomes and objectives specified by government.

McPherson and Raab identified the importance and resonance within education in Scotland of the idea of the democratic intellect and concluded:

History and myth, policy and practice: the democratic intellect was all of these, and is so still (McPherson and Raab, 1988:501).

Democratic intellectualism has been shown to be at the centre of research pooling policy in the form of 'selective inclusivity', the basic principle necessary to secure the widespread support for the policy within the sector and enable it to proceed. In looking to the future, the continued presence and influence of this important idea within higher education in Scotland is acknowledged. Pooling references the democratic intellect, is a product of it, and advances it in the 21st century by translating 'myth' into policy, institutional structures and practice.

Limitations of the Study and Further Work

This section discusses the limitations of the study and offers suggestions for further research.

Limitations

The thesis concerns the formation of research pooling policy and therefore focuses on the perspectives and experience of those closely involved in the development of the policy. In doing so, it seeks to understand and illuminate the processes at work in forming the policy and present a plausible and credible account. The thesis does not, however, make 'truth' claims, it *'focuses on explicating the unique, idiosyncratic meanings and perspectives constructed by individuals, groups, or both who live/act in a particular context'* (Cho and Trent, 2006:328), what Maxwell has characterised as *'interpretive validity'* (Maxwell, 1992). I recognise, however, and draw attention to the possibility that a different epistemological approach may have produced different findings. It is also possible to see that, since the study seeks to illuminate a policy 'case', the particular instance has elements of uniqueness: *'thereby discouraging too hasty a generalization'* (Pring, 2004:109). Consequently, the study does not make claims to generalisability other than to offer the possibility that as the 'case' may be unique in some respects and similar in others, it therefore *'may alert one to similar possibilities in other situations'* (Pring, 2004:41).

The study drew on the experience of one of the first research pools. It should be noted that another new research pool was in development at the same time and is referenced in the text (a third pool was also in development that built upon existing collaborative arrangements) and we should be open to the possibility that those involved in the development of other pools may have experienced the process differently.

Lincoln and Guba have identified the importance of 'trustworthiness' in interpretive research (Lincoln and Guba, 1985) and the study has tried hard to achieve this and is

presented in this spirit whilst recognising that *'trustworthiness is always negotiable and open-ended, not being a matter of final proof whereby readers are compelled to accept an account'* (Seale, 1999:468).

Further Work

Drawing on this study there would seem to be a need for further research in three broad areas. The first area of interest is further investigation of how higher education policy, and public policy more generally, is made in the context of post-devolution Scotland, and I hope that this study may connect to further work exploring policy developments and the workings of policy networks under new governance structures.

The second concerns the continued development of research pooling and policies designed to enhance research competitiveness. The shift towards knowledge societies and the sustained growth of knowledge economies suggest that the way countries and regions develop and maintain the output of leading-edge research in their higher education systems will continue to be a key concern. There would appear, therefore, to be scope for further research to understand and compare how such global pressures and policies are interpreted in 'local' contexts. A possible step towards such understanding and international comparability would be a study of the strategies for developing university research in England and Scotland. There would also seem to be scope for exploring research collaboration ideas and developments in the regions of England and seeking to understand and compare the policy development processes and the effects of different political and cultural contexts. Following the introduction of pooling policy, several research pools have now been created and some have been operational for a number of years. This suggests opportunities for studies of the comparative experience of pooling of a number of pools; for further work exploring the experience of academic researchers working in research pools; and for exploring the development and contribution of research pooling over time, and I hope this study will connect to such work.

Finally, the Scottish Government's 'New Horizons' document introduces the idea of teaching pooling for consideration as *'an option for future development'* (Scottish

Government, 2008:20). This offers an opportunity to explore the development of the policy idea, comparing it with the development of research pooling and continuing to build understanding of higher education policy-making in Scotland.

References

- Acevedo, B. and R. Common (2006). "Governance and the Management of Networks in the Public Sector." Public Management Review 8(3): 395-414.
- Agranoff, R. and M. McGuire (2003). "Inside the Matrix: Integrating the Paradigms of Intergovernmental and Network Management." International Journal of Public Administration 26(12): 1401-1422.
- Alexander, W. (2000). Higher Education: Guidance and Funding for 2001/02. Enterprise and Lifelong Learning. **23 November 2000**.
- Alexiadou, N. and K. Jones (2001). Travelling Policy / Local Spaces. Congres Marx International 111. Paris.
- Altbach, P. G. (2001). "Academic Freedom: International Realities and Challenges." Higher Education 41: 205-219.
- Altbach, P. G., Ed. (2003). The Decline of the Guru: The Academic Profession in Developing and Middle-Income Countries. New York, Palgrave Macmillan.
- Altbach, P. G. (2004). "Globalization and the University: Myths and Realities in an Unequal World." Tertiary Education and Management 10(1): 3-25.
- Anderson, B. (2006). Imagined Communities: Reflections on the Origin and Spread of Nationalism (Revised Edition). London and New York, Verso.
- Anderson, G. (2006). "Carving Out Time and Space in the Managerial University." Journal of Organizational Change Management 19(5): 578-592.
- Anderson, J. E. (1975). Public Policy Making. New York, Praeger.
- Anderson, R. (1997). Scottish Education Since the Reformation. Edinburgh, Economic and Social History Society of Scotland.
- Anderson, R. (2003). The History of Scottish Education, pre-1980. Scottish Education Second Edition: Post-Devolution. T. G. K. Bryce and W. M. Humes. Edinburgh, Edinburgh University Press.
- Angus, L. (2004). "Globalization and Educational Change: Bringing About the Reshaping and Re-norming of Practice." Journal of Education Policy 19(1): 23-41.
- Appadurai, A. (1996). Modernity at Large: Cultural Dimensions of Globalisation. Minneapolis, University of Minnesota Press.
- Arnott, M. and J. Ozga (2009). The Discourse of Education and Nationalism: Education Policy and the SNP Government. Social Policy Association Annual Conference. University of Edinburgh.
- Arts, B. and J. V. Tatenhove (2004). "Policy and Power: A Conceptual Framework between the 'Old' and 'New' Policy Idioms." Policy Sciences 37: 339-356.
- Ashby, E. (1967a). "The Future of the Nineteenth Century Idea of a University." Minerva VI: 3-17.

Ashby, E. (1967b). "Ivory Towers in Tomorrow's World." Journal of Higher Education **XXXVIII**(8): 417-427.

Atkinson, M. M. and W. D. Coleman (1989). "Strong States and Weak States: Sectoral Policy Networks in Advanced Capitalist Economies." British Journal of Political Science **19**: 47-67.

Atkinson, M. M. and W. D. Coleman (1992). "Policy Networks, Policy Communities and the Problems of Governance." Governance: An International Journal of Policy and Administration **5**(2): 154-180.

Atkinson, P. and A. Coffey (2004). Analyzing Documentary Realities. Qualitative Research: Theory, Method and Practice. D. Silverman. London, Sage.

Atkinson, R., C (2004). Academic Freedom and the Research University. Berkeley, Center for Studies in Higher Education, University of California, Berkeley. **CSHE.2.04**.

Ball, S. J. (1990). Politics and Policy Making in Education: Explorations in Policy Sociology. London, Routledge.

Ball, S. J. (1993). "What is Policy? Texts, Trajectories and Toolboxes " Discourse **13**(2): 10-17.

Ball, S. J. (1994). Political Interviews and the Politics of Interviewing. Researching the Powerful in Education. G. Walford. London, UCL Press.

Ball, S. J. (1994). "Some Reflections on Policy Theory: A Brief Response to Hatcher and Troyna." Education Policy **9**(2): 171-182.

Ball, S. J. (1997). "Policy, Sociology and Critical Social Research: a Personal Review of Recent Education Policy and Policy Research " British Educational Research **23**(3): 257-274.

Ball, S. J. (1998). "Big Policies/Small World: An Introduction to International Perspectives in Education Policy." Comparative Education **34**(2): 119-130.

Ball, S. J. (2007). "Leadership of Academics in Research." Educational Management Administration and Leadership **35**(4): 449-477.

Becher, T. and M. Kogan (1992). Process and Structure in Higher Education (2nd ed.). London, Routledge.

Becher, T. and P. R. Trowler (2001). Academic Tribes and Territories: Intellectual Enquiry and the Culture of Disciplines (Second Edition). Buckingham, The Society for Research into Higher Education and Open University Press.

Becker, G. S. (2002). The Age of Human Capital: 3-8.

Bell, D. (1973). The Coming of Post-Industrial Society. New York, Basic Books.

Bennett, C. J. (1992). "The Lessons of Learning: Reconciling Theories of Policy Learning and Policy Change." Policy Sciences **25**(3): 275-294.

Bentley, T. (2001). It's Democracy, Stupid: An Agenda for Self-Government. London, Demos.

- Berdahl, R. (1999). Universities and Governments in the 21st Century: The US Experience. Towards a New Model of Governance for Universities? A Comparative View. D. Braun and F.-X. Merrien. London, Jessica Kingsley: 59-77.
- Besussi, E. (2006). Policy Networks: Conceptual Developments and their European Applications. London, University College London.
- Bevir, M. and R. A. W. Rhodes (2001). Decentering British Governance: From Bureaucracy to Networks. Institutue of Governmental Studies Colloquium. University of California, Berkeley.
- Bevir, M. and R. A. W. Rhodes (2003). "Searching for Civil Society: Changing Patterns of Governance in Britain." Public Administration **81**: 41-62.
- Bevir, M. and R. A. W. Rhodes (2006). "Interpretive Approaches to British Government and Politics." British Politics **1**: 84-112.
- Blackmore, P. and R. Blackwell (2006). "Strategic Leadership in Academic Development." Studies in Higher Education **31**(3): 373-387.
- Bleiklie, I. (2005). "Organizing Higher Education in a Knowledge Society." Higher Education **49**: 31-59.
- Bogdan, R. C. and S. K. Biklan (1982). Qualitative Research for Education: An Introduction to Theory and Methods. Boston, Allyn and Bacon Inc.
- Bond, R. and M. Rosie (2002). National Identities in Post-Devolution Scotland. Edinburgh, University of Edinburgh, Institute of Governance Online Papers: 1-15.
- Borzel, T. A. (1997). "What's So Special About Policy Networks? An Exploration of the Concept and its Usefulness in Studying European Governance." European Integration online Papers (EIOP) **1**(016).
- Bourdieu, P. (1990). In Other Words: Essays Towards a Reflexive Sociology. Cambridge, Polity Press.
- Bourdieu, P. (1993). The Field of Cultural Production. Cambridge, Polity Press.
- Braddock, R. and G. Neave (2002). "Research Management in Higher Education: Overview and Conclusion of a Debate." Higher Education Policy **15**: 313-330.
- Bressers, H. T. A. and L. J. O'Toole (1998). "The Selection of Policy Instruments: a Network-based Perspective." Public Policy **18**(3): 213-239.
- Briggs, A. R. J. (2004). "Middle Managers in Further Education Colleges: The "New Professionals"." Educational Administration **42**(5): 586-600.
- Brinkley, I. (2006). Defining the Knowledge Economy. London, The Work Foundation.
- Brinkley, I. and N. Lee (2006). The Knowledge Economy in Europe: A Report Prepared for the 2007 EU Spring Council. London, The Work Foundation.

- Brint, S. (2001). "Professional and the 'Knowledge Economy': Rethinking the Theory of Postindustrial Society." Current Sociology **49**(4): 101-132.
- Brown, A. (2001). "The Scottish Parliament: Hopes and Aspirations." Scottish Affairs Special Issue: Stateless Nations in the 21st Century: Scotland, Catalonia and Quebec: 78-84.
- Brown, A., D. McCrone, et al. (1998). Politics and Society in Scotland (2nd edition). Basingstoke, Macmillan.
- Brown, P., A. H. Halsey, et al. (1997). The Transformation of Education and Society: An Introduction. Education: Culture, Economy and Society. P. Brown and S. A. Wells. Oxford, Oxford University Press.
- Brown, P. and H. Lauder (1996). "Education, Globalization, and Economic Development." Education Policy **11**(1): 1-25.
- Brubacher, J., S (1967). "The Autonomy of the University: How Independent is the Republic of Scholars?" Journal of Higher Education **38**(5): 237-249.
- Bryman, A. (1988). Quantity and Quality in Social Research. London, Routledge.
- Bullen, E., S. Robb, et al. (2004). "Creative Destruction: Knowledge Economy Policy and the Future of the Arts and Humanities in the Academy." Journal of Education Policy **19**(1): 3-22.
- Burton, P. (2006). "Modernizing the Policy Process." Policy Studies **27**(3): 173-195.
- Caldwell, D. (2003). Scottish Higher Education: Character and Provision. Scottish Education Second Edition: Post-Devolution. T. G. K. Bryce and W. M. Humes. Edinburgh, Edinburgh University Press.
- Caldwell, D. (2004). Current Issues in Higher Education Research. Enhancing Research Competitiveness in Scotland, Glasgow.
- Cameron, K. and M. Tschirhart (1992). "Postindustrial Environments and Organizational Effectiveness in Colleges and Universities." Higher Education **63**(1): 87-108.
- Campbell, D. T. (1975). "'Degrees of Freedom' and the Case Study." Comparative Political Studies **8**(2): 178-193.
- Capano, G. (1996). "Political Science and the Comparative Study of Policy Change in Higher Education: Theoretico-methodological Notes From a Policy Perspective." Higher Education **31**: 263-282.
- Cardini, A. (2006). "An Analysis of the Rhetoric and Practice of Educational Partnerships in the UK: an Arena of Complexities, Tensions and Power." Education Policy **21**(4): 393-415.
- Carlsson, L. (2000). "Policy Networks as Collective Action." Policy Studies **28**(3): 502-520.
- Carter, J. J. and D. J. Withrington, Eds. (1992). Scottish Universities: Distinctiveness and Diversity. Edinburgh, John Donald Publishers Ltd.
- Casey, C. (1995). Work, Self and Society after Industrialisation. London, Routledge.

- Castells, M. (1996). The Rise of the Network Society, The Information Age: Economy, Society and Culture. Oxford, Blackwell.
- Castells, M. (1997). The Power of Identity. Malden, Mass. and Oxford, Blackwell.
- Chapman, S. (2004). EastChem: The Edinburgh and St Andrews Research School of Chemistry. C. R. S. o. t. U. o. E. a. S. Andrews. Edinburgh and St Andrews.
- Chitty, C., R. Dale, et al. (1991). "Politics and Policy Making in Education: Explorations in Policy Sociology." British Journal of Sociology of Education 12(2): 243-254.
- Cho, J. and A. Trent (2006). "Validity in Qualitative Research Revisited." Qualitative Research 6(3): 319-340.
- Clark, B. (1998). Creating Entrepreneurial Universities: Organizational Pathways of Transformation. London, Pergamon Press.
- Clarke, J. and J. Newman (1997). The Managerial State. London, Sage.
- Coaldrake, P. and L. Stedman (1999). Academic Work in the Twenty-First Century: Changing Roles and Policies. Canberra, Department of Education, Training and Youth Affairs.
- Cole, M. (1998). "Globalisation, Modernisation and Competiveness: a Critique of the New Labour Project in Education." International Studies in Sociology of Education 8(3): 315-333.
- Coleman, W. D. and A. Pearl (1999). "Internationalized Policy Environments and Policy Network Analysis." Political Studies XLVII: 691-709.
- Confederation of EU Rectors (2000). The Bologna Declaration on the European Space for Higher Education: An Explanation. Brussels, European Commission.
- Cooke, P. and L. Leydesdorff (2006). "Regional Development in the Knowledge-Based Economy." Journal of Technology Transfer 31: 5-15.
- Crane, D. (1972). Invisible Colleges: Diffusion of Knowledge in Scientific Communities. Chicago, The University of Chicago Press.
- Creswell, J. W. (2007). Qualitative Inquiry & Research Design: Choosing Among Five Approaches, 2nd Edition. Thousand Oaks, Sage Publications, Inc.
- Dale, R. (1999). "Specifying Globalization Effects on National Policy: a Focus on the Mechanisms." Education Policy 14(1): 1-17.
- Dale, R. (2007). Repairing the Deficits of Modernity; the Emergence of Parallel Discourses in Higher Education in Europe.
- Damgaard, B. (2006). "Do Policy Networks Lead to Network Governing?" Public Administration 84(3): 673-691.
- Davie, G., E. (1961). The Democratic Intellect: Scotland and Her Universities in the Nineteenth Century. Edinburgh, Edinburgh University Press.

- Davie, G., E. (1986). The Crisis of the Democratic Intellect. Edinburgh, Polygon.
- Davies, B. (2003). "Death to Critique and Dissent? The Policies and Practices of New Managerialism and of 'Evidence-based Practice'." Gender and Education **15**(1): 91-103.
- de la Mothe, J. (2003). "Re-Thinking Policy in the New Republic of Knowledge." Minerva **41**: 195-205.
- Deem, R. (1998). "'New Managerialism' and Higher Education: the Management of Performances and Cultures in Universities in the United Kingdom." International Studies in Sociology of Education **8**(1): 47-70.
- Deem, R. (2001). "Globalisation, New Managerialism, Academic Capitalism and Entrepreneurialism in Universities: is the Local Dimension Still Important?" Comparative Education **37**(1): 7-20.
- Deem, R. (2005). 'New Managerialism' and the Management of UK Universities. Lancaster, Lancaster University.
- Deem, R. (2006a). "Conceptions of Contemporary European Universities: To Do Research or Not To Do Research." European Journal of Education **41**(2): 281-304.
- Deem, R. (2006b). "Changing Research Perspectives on the Management of Higher Education: Can Research Permeate the Activities of Manager-Academics?" Higher Education Quarterly **60**(3): 203-228.
- Deem, R. (2007). "Managing Contemporary UK Universities - Manager-Academics and New Managerialism." Academic Leadership: The Online Journal **1**(3): 1-6.
- Deem, R. and K. J. Brehony (2005). "Management as Ideology: the Case of 'New Managerialism' in Higher Education." Oxford Review of Higher Education **31**(2): 217-235.
- Deem, R. and R. J. Johnson (2000). Managerialism and University Managers: Building New Academic Communities or Disrupting Old Ones? Higher Education and Its Communities. I. McNay. Buckingham, Open University Press: 65-84.
- Deer, C. (2003). "The Meaning of the Growing Integration of Educational Systems and Self-Reflective Practice." British Journal of Sociology of Education **24**(2): 195-207.
- Dehli, K. and A. Taylor (2006). Toward New Government of Education Research: Refashioning Researchers as Entrepreneurial and Ethical Subjects. Education Research and Policy: Steering the Knowledge-Based Economy. J. Ozga, T. Seddon and T. S. Popkewitz. Abingdon, Routledge.
- Denzin, N. K. (2002). The Interpretive Process. The Qualitative Researcher's Companion. A. M. Huberman and M. B. Miles. London, Sage Publications.
- Department for Education and Skills (2003). The Future of Higher Education. Department for Education and Skills, HMSO.
- Dewar, D. (1999). Speech at the Opening of the Scottish Parliament, 1 July 1999. Edinburgh, Scottish Parliament.

- Dill, D. D. (1982). "The Management of Academic Culture: Notes on the Management of Meaning and Social Integration." Higher Education 11: 303-320.
- Dill, D. D. (2001). "The Regulation of Public Research Universities: Changes in Academic Competition and Implications for University Autonomy and Accountability." Higher Education Policy 14: 21-35.
- Donmoyer, R. (1990). Generalizability and the Single-Case Study. Qualitative Inquiry in Education: The Continuing Debate. E. W. Eisner and A. Peshkin. New York, Teachers College Press.
- Donn, G. (2003). Parliament, SEED and the Administration of Scottish Education after Devolution. Scottish Education, Second Edition: Post-Devolution. T. G. K. Bryce and W. M. Humes. Edinburgh, Edinburgh University Press.
- Dorey, P. (2005). Policy Making in Britain: An Introduction. London, Sage Publications Ltd.
- Douglass, J. A. (2005). All Globalization is local: Countervailing Forces and the Influence on Higher Education Markets. Research and Occasional Paper Series: CSHE.1.05. Berkeley, University of California, Berkeley.
- Dowding, K. (1995). "Model or Metaphor? A Critical Review of the Policy Network Approach." Political Studies XLIII: 136-158.
- du Gay, P. (1994). "Making Up Managers: Bureaucracy, Enterprise and the Liberal Art of Separation." British Journal of Sociology 45(4).
- Duke, K. (2002). "Getting Beyond the 'Official Line': Reflections on Dilemmas of Access, Knowledge and Power in Researching Policy Networks." Social Policy 31(1): 39-59.
- Dunbabin, J. (1999). Universities c.1150 - c.1350. The Idea of a University. D. Smith and A. K. Langslow. London, Jessica Kingsley Publishers.
- Economic and Social Science Research Council. (2008). "The Knowledge Economy." Retrieved 18 July, 2008, from <http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/facts/UK/index4.aspx?ComponentId=6978&SourcePageId=18132>.
- Etzkowitz, H. and L. Leydesdorff (1997). The University in the Global Economy: A Triple Helix of Academic-Industry-Government Relations. London, Cassell.
- Europa. (2009). "Globalisation of the Economy." from europa.eu/scadplus/glossary/globalisation_en.htm.
- European Commission (2000a). Towards a European Research Area. Luxembourg, Office for Official Publications of the European Communities.
- European Commission (2000b). Towards a European Research Area, Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, COM (2000) 6, 18 January 2000. Brussels, European Commission.
- European Commission (2002). More Research for Europe: Towards 3% of GDP, COM (2002) 499, 11.9.2002. Brussels, European Commission.

- European Commission (2003a). The Role of the Universities in the Europe of Knowledge, Communication, COM (2003) 58, European Commission.
- European Commission (2003b). Realising the European Higher Education Area, Communiqué of the Conference of Ministers Responsible for Higher Education. Brussels, European Commission.
- European Commission (2004). Facing the Challenge: The Lisbon Strategy for Growth and Jobs, Report from the High Level Group Chaired by Wim Kok. Luxembourg, European Commission.
- European Commission (2005a). European Universities: Enhancing Europe's Research Base, Report by the Forum on University-based Research, European Commission, Directorate-General for Research
- European Commission (2005b). Mobilising the Brainpower of Europe: Enabling the Universities to Make Their Full Contribution to the Lisbon Strategy, Communication, COM (2005) 152, European Commission.
- European Commission (2007a). Facts and Figures of the European Research Area, MEMO/07/128. Brussels, European Commission.
- European Commission (2007b). The European Research Area: New Perspectives, Green Paper, COM (2007) 161, 4.4.2007. Brussels, European Commission.
- European Commission (2007c). From Bergen to London: The Contribution of the European Commission to the Bologna Process, 7 May 2007. Brussels, European Commission, Directorate-General for Education and Culture.
- European Commission (2007d). The Seventh Framework Programme: Taking European Research to the Forefront. Research Directorate-General.
- European Council (2000). Presidency Conclusions, Lisbon European Council, 23 and 24 March 2000.
- European Research Council. (2008). "Mission: What is the ERC?" Retrieved 12 July, 2008, from <http://erc.europa.eu/index.cfm?fuseaction=page.display&topicID=12>.
- Evans, M. (2000). "Understanding Dialectics in Policy Network Analysis." *Political Studies* 49: 542-550.
- Fairclough (1993). "Critical Discourse Analysis and the Marketisation of Public Discourse: the Universities." *Discourse and Society* 4(20): 133-168.
- Fairclough, N. (2001). The Discourse of New Labour. *Discourse Theory and Practice: A Reader*. M. Wetherell, S. Taylor and S. Yates. London, Sage.
- Fallon, D. (1980). *The German University: A Heroic Idea in Conflict with the Modern World*. Boulder, Colorado Associated University Press.
- Farquharson, K. (2005). "A Different Kind of Snowball: Identifying Key Policymakers." *Social Research Methodology* 8(4): 345-353.

- Fitzsimons, P. (2000). "Changing Conceptions of Globalization, Changing Conceptions of Education." Educational Theory 50(4): 505-520.
- Flyvbjerg, B. (2006). "Five Misunderstandings About Case-Study Research." Qualitative Inquiry 12(2): 219-245.
- Foucault, M. (1977). The Archaeology of Knowledge. London, Tavistock.
- Frenken, K. (2002). "Europeanisation of Science." Tijdschrift voor Economische en Sociale Geografie 93(5): 563-570.
- Frolich, N. (2005). "Implementation of New Public Management in Norwegian Universities." European Journal of Education 40(2): 223-234.
- Gadamer, H. (1975). Truth and Method, trans. J Weinsheimer and D Marshall. London, Sheed and Ward.
- Gains, F. (2003). "Executive Agencies in Government: The Impact of Bureaucratic Networks on Policy Outcomes." Public Policy 23(1): 55-79.
- Gale, T. (2001). "Critical Policy Sociology: Historiography, Archaeology and Genealogy as Methods of Policy Analysis." Education Policy 16(5): 379-393.
- Gani, D. (2004). Supporting HEIs in Enhancing Research Competitiveness Through Pooling Resources. Enhancing Research Competitiveness in Scotland, Glasgow.
- Gani, D. (2008). Reflections on Pooling Expertise. Research Fortnight. 2 July 2008: 16.
- Geiger, R., L. (2006). "The Quest for 'Economic Relevance' by US Research Universities." Higher Education Policy 19: 411-431.
- Gewirtz, S. and J. Ozga (1990). "Partnership, Pluralism and Education Policy: a Reassessment." Education Policy 5(1): 37-48.
- Gewirtz, S. and J. Ozga (1994). Interviewing the Education Policy Elite. Researching the Powerful in Education. G. Walford. London, UCL Press.
- Gibbons, M., C. Limoges, et al. (1994). The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies. London, Sage.
- Giddens, A. (1990). Consequences of Modernity. Cambridge, Polity Press.
- Giddens, A. (1998). The Third Way: The Renewal of Social Democracy. Cambridge, Polity Press.
- Godin, B. (2006). "The Knowledge-Based Economy: Conceptual Framework or Buzzword?" Journal of Technology Transfer 31: 17-30.
- Goedegebuure, L. and M. Hayden (2007). "Overview: Governance in Higher Education - Concepts and Issues." Higher Education Research and Development 26(1): 1-11.
- Golafshani, N. (2003). "Understanding Reliability and Validity in Qualitative Research." The Qualitative Report, from www.nova.edu/ssss/QR/QR8-4/golafshani.pdf.

- Goldthorpe, J. H. (1982). On the Service Class, Its Formation and Future. Classes and the Division of Labour. A. Giddens and G. MacKenzie. Cambridge, Cambridge University Press.
- Gorostiaga, J., M. Pini, et al. (2006). The Steering of Educational Policy in Neoliberal Times: The Case of Argentina. Education Research and Policy: Steering the Knowledge Based Economy. J. Ozga, T. Seddon and T. S. Popkewitz. Abingdon, Routledge.
- Graham, G. (2008). Universities: The Recovery of an Idea (2nd ed.). Exeter, Imprint Academic.
- Gray, J. (1998). False Dawn: The Delusions of Global Capitalism. London, Granta Books.
- Gray, J., A. McPherson, et al. (1983). Reconstructions of Secondary Education. London, Routledge and Kegan Paul.
- Greenwood, R. and C. R. Hinings (1996). "Understanding Radical Organizational Change: Bringing Together the Old and the New Institutionalism." Academy of Management Review 21(4): 1022-1054.
- Grek, S. (2009). "Governing by Numbers: The PISA 'Effect' in Europe." Journal of Education Policy 24(1): 23-37.
- Grek, S. and M. Lawn (2006). Europeanizing Education: Fabricating a System for Governing? Unpublished Paper: ESRC/ESF Research Project on Fabricating Quality in Education, Centre for Educational Sociology, University of Edinburgh.
- Groundwater-Smith, S. and J. Sachs (2002). "The Activist Professional and the Reinstatement of Trust." Cambridge Journal of Education 32(3): 341-358.
- Guba, E. G. and Y. S. Lincoln (1994). Competing Paradigms in Qualitative Research. Handbook of Qualitative Research. N. K. Denzin and Y. S. Lincoln. Newbury Park, Sage Publications, Inc.
- Guba, E. G. and Y. S. Lincoln (1995). Fourth Generation Evaluation. Newbury Park, Sage Publications, Inc.
- Gumport, P. J. (2000). "Academic Restructuring: Organisational Change and Institutional Imperatives." Higher Education 39: 67-91.
- Gumport, P. J. and B. Sporn (1999). Institutional Adaptation: Demands for Management Reform and University Administration. Stanford, National Center for Postsecondary Improvement, Stanford University.
- Gunter, B., G. and R. van der Hoeven (2004). "The Social Dimension of Globalization: A Review of the Literature." International Labour Review 143(1-2): 7-43.
- Halsey, A. H. (1992). The Decline of Donnish Dominion. Oxford, Clarendon.
- Hammersley, M. (1987). "Some Notes on the Terms 'Validity' and 'Reliability'." British Educational Research 13(1): 73-81.
- Hammersley, M., Ed. (1993). Social Research: Philosophy, Politics and Practice. London, Sage Publications Ltd.

- Hannabuss, S. (2000). "Being There: Ethnographic Research and Autobiography." Library Management **21**(2): 99-107.
- Harris, S. (2002). "Modernising Governance: the Impact on Policy and Research Communities in the United Kingdom." International Studies in Sociology of Education **12**(3): 319-333.
- Hay, C. and B. Rosamond (2002). "Globalization, European Integration and the Discursive Construction of Economic Imperatives." Journal of European Public Policy **9**(2): 147-167.
- Hearn, J. (2000). Claiming Scotland: National Identity and Liberal Culture. Edinburgh, Edinburgh University Press.
- Heclo, H. and A. Wildavsky (1974). The Private Government of Public Money. London, Macmillan.
- Heintz, H. T. and H. C. Jenkins-Smith (1988). "Advocacy Coalitions and the Practice of Policy Analysis." Policy Sciences **21**: 263-277.
- Held, D., A. McGrew, et al. (1999). Global Transformations: Politics, Economics, and Culture. Stanford CA, Stanford University Press.
- Henkel, M. (2000). Academic Identities and Policy Change in Higher Education. London, Jessica Kingsley.
- Henkel, M. (2004). "Current Science Policies and their Implications for the Formation and Maintenance of Academic Identity." Higher Education Policy **17**: 167-182.
- Henkel, M. (2005). "Academic Identity and Autonomy in a Changing Policy Environment " Higher Education **49**(1-2): 155-176.
- Henkel, M. (2007). "Can Academic Autonomy Survive in the Knowledge Society? A Perspective from Britain." Higher Education Research and Development **26**(1): 87-99.
- Henry, M. (1993). "What is Policy? A Response to Stephen Ball." Discourse **14**(1): 102-105.
- Henry, M., B. Lingard, et al. (1999). "Working With / Against Globalization in Education." Education Policy **14**(1): 85-97.
- Henwood, K. L. and N. F. Pidgeon (1993). Qualitative Research and Psychological Theorizing. Social Research: Philosophy, Politics and Practice. M. Hammersley. London, Sage Publications Ltd.
- Heyck, T. W. (1987). "The Idea of a University in Britain, 1870-1970." History of European Ideas **8**(2): 205-219.
- Hill, M. J. (2005). The Public Policy Process. Harlow, Pearson Education Limited.
- Hill, M. J. and P. Hup (2002). Implementing Public Policy: Governance in Theory and Practice. London, Sage Publications Ltd.
- Hockey, J. (1993). "Research Methods - Researching Peers and Familiar Settings." Research Papers in Education **8**(2): 199-225.

- Hoggett, P. (1996). "New Modes of Control in the Public Service." Public Administration 74: 9-32.
- Hogwood, B. W. and L. A. Gunn (1984). Policy Analysis for the Real World. Oxford, Oxford University Press.
- Hood, C. (1995). "The 'New Public Management' in the 1980s: Variations on a Theme." Accounting, Organizations and Society 20(2/3): 93-109.
- Hudson, J. and S. Lowe (2004). Understanding the Policy Process: Analysing Welfare Policy and Practice. Bristol, The Policy Press.
- Hudson, J., S. Lowe, et al. (2007). "Activating Policy Networks: A Case Study of Local Environmental Policy-Making in the United Kingdom." Policy Studies 28(1): 55-70.
- Hughes, J. A. and W. W. Sharrock (1997). The Philosophy of Social Research, 3rd Edition. Harlow, Pearson Education Limited.
- Humes, W. M. (1986). The Leadership Class in Scottish Education. Edinburgh, John Donald Publishers.
- Humes, W. M. (2003). Policy Making in Scottish Education. Scottish Education Second Edition: Post-Devolution. T. G. K. Bryce and W. M. Humes. Edinburgh, Edinburgh University Press.
- Irvine, J. and B. Martin (1984). Foresight in Science: Picking the Winners. London, Pinter.
- Janesick, V. J. (2003). The Choreography of Research Design: Minuets, Improvisations, and Crystallization. Strategies of Qualitative Inquiry. N. K. Denzin and Y. S. Lincoln. Thousand Oaks, Sage Publications, Inc.: 34.
- Jeffery, C. (2009). "Devolution in the United Kingdom: Problems of a Piecemeal Approach to Constitutional Change." Publius: The Journal of Federalism 39(2): 289-313.
- John, P. (1998). Analysing Public Policy. London, Continuum.
- Johnson, T., C. Dandeker, et al. (1990). The Structure of Social Theory. London, Macmillan.
- Jordan, G. (1990). "Sub-governments, Policy Communities and Networks: Refilling the Old Bottles?" Theoretical Politics 2(3): 319-338.
- Jordan, G. and J. Richardson (1982). The British Policy Style or the Logic of Negotiation? Policy Styles in Western Europe. J. Richardson. London, George Allen & Unwin.
- Jordan, G. and K. Schubert (1992). "A Preliminary Ordering of Policy Network Labels." European Journal of Political Research 21: 7-27.
- Jupp, V. and C. Norris (1993). Traditions in Documentary Analysis. Social Research: Philosophy, Politics and Practice. M. Hammersley. London, Sage.
- Keating, M. (2005a). The Government of Scotland: Public Policy Making After Devolution. Edinburgh, Edinburgh University Press.
- Keating, M. (2005b). "Higher Education in Scotland and England after Devolution." Regional and

Federal Studies **15**(4): 423-435.

Keating, M. and A. Midwinter (1983). The Government of Scotland. Edinburgh, Mainstream Press.

Keeling, R. (2006). "The Bologna Process and the Lisbon Research Agenda: the European Commission's Expanding Role in Higher Education Discourse." European Journal of Education **41**(2): 203-223.

Kelly, R. (2005). The Possibilities for the Future Remain Colossal. Universities UK Annual Conference. London.

Kenis, P. and V. Schneider (1989). Policy Networks as an Analytical Tool for Policy Analysis. Max Planck Institut, Cologne.

Kenis, P. and V. Schneider (1991). Policy Networks and Policy Analysis: Scrutinizing a New Analytical Toolbox. Policy Networks: Empirical Evidence and Theoretical Concerns. B. Marin and R. Mayntz. Boulder, Westview Press: 25-59.

Kenway, J., E. Bullen, et al. (2004). "The Knowledge Economy, the Techno-preneur and the Problematic Future of the University." Policy Futures in Education **2**(2): 330-345.

Kenway, J. and J. Fahey (2007). Policy Incitements to Mobility: Some Speculations and Provocations. Geographies of Knowledge, Geometries of Power: Framing the Future of Higher Education. D. Epstein, R. Boden, R. Deem, F. Rizvi and S. Wright. New York, Routledge.

Ker, I. (1999). Newman's Idea of a University: A Guide for the Contemporary University? The Idea of a University. D. Smith and A. K. Langslow. London, Jessica Kingsley Publishers.

Kerr, C. (1963). The Uses of the University. Cambridge, Harvard University Press.

Kisby, B. (2007). "Analysing Policy Networks: Towards and Ideational Approach." Policy Studies **28**(1): 71-90.

Kitagawa, F. (2009). "Creating Critical Mass of Research Excellence in the Region: The Case of Scottish Research Pooling Initiatives." European Planning Studies **17**(3).

Klijn, E.-H. and J. F. M. Koppenjan (2000). "Public Management and Policy Networks: Foundations of a Network Approach to Governance." Public Management **2**(2): 135-158.

Kogan, M. (1996). "Comparing Higher Education Systems." Higher Education **32**(4): 395-402.

Kriesi, H., S. Adam, et al. (2006). "Comparative Analysis of Policy Networks in Western Europe." Journal of European Public Policy **13**(3): 341-361.

Lam, A. (2007). Work Roles and Careers of Academic Scientists in University-Industry Collaborations. ESRC End of Award Report, RES-160-25-0018. Swindon, ESRC.

Landman, M. (1998). "Rough Winds Do Shake: Higher Education in Transition." International Studies in Sociology of Education **8**(2): 241-250.

Lawn, M. and B. Lingard (2002). "Constructing a European Policy Space in Educational Governance: The Role of Transnational Policy Actors." European Educational Research **1**(2).

- LERU (2003). *Research-Intensive Universities as Engines for the "Europe of Knowledge"*. Leuven, League of European Research Universities.
- Lewis, D. K. (1973). "Anthropology and Colonialism." *Current Anthropology* **14**: 581-602.
- Lincoln, Y. S. and E. G. Guba (1985). *Naturalistic Inquiry*. Beverley Hills, Sage Publications, Inc.
- Lingard, B. (2000). *It Is and It Isn't: Vernacular Globalization, Educational Policy and Restructuring. Globalization and Education: Critical Perspectives*. N. C. Burbules and C. A. Torres. London, Routledge University Press.
- Lipsky, M. (1980). *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services*. New York, Russell Sage Foundation.
- Lowi, T. J. (1972). "Four Systems of Policy, Politics, and Choice." *Public Administration Review* **32**(4): 298-310.
- Lukes, S. (2005). *Power: A Radical View*. Basingstoke, Palgrave Macmillan.
- Lyall, C. (2007). "Changing Boundaries: the Role of Policy Networks in the Multi-level Governance of Science and Innovation in Scotland." *Science and Public Policy* **34**(1): 3-14.
- Lynch, P. (2001). *Scottish Government and Politics: An Introduction*. Edinburgh, Edinburgh University Press.
- Machlup, F. (1962). *The Production and Distribution of Knowledge in the United States*. Princeton, Princeton University Press.
- MacIntyre, A. (1981). *After Virtue*. London, Duckworth.
- Marginson, S. (2006). "The Anglo-American University at its Global High Tide." *Minerva* **44**: 65-87.
- Marginson, S. (2006). "Dynamics of National and Global Competition in Higher Education." *Higher Education* **52**: 1-39.
- Marginson, S. and G. Rhoades (2002). "Beyond National States, Markets, and Systems of Higher Education: A Glonacal Agency Heuristic." *Higher Education* **43**: 281-309.
- Marginson, S. and M. van der Wende (2007). *Globalisation and Higher Education. OECD Education Working Papers Series*. Directorate for Education. Paris, Organisation for Economic Co-operation and Development.
- Marin, B. and R. Mayntz, Eds. (1991). *Policy Networks: Empirical Evidence and Theoretical Considerations*. Boulder, Westview Press.
- Marinetto, M. (2003). "Governing Beyond the Centre: A Critique of the Anglo-Governance School." *Policy Studies* **51**: 592-608.
- Marsh, D., Ed. (1998). *Comparing Policy Networks*. Public Policy and Management. Buckingham, Open University Press.

- Marsh, D. and M. Smith (2000). "Understanding Policy Networks: Towards a Dialectical Approach." Political Studies 48(4): 4-21.
- Marsh, D. and M. J. Smith (2001). "There is More Than One Way to Do Political Research: On Different Ways to Study Policy Networks." Political Studies 49: 528-541.
- Massie, A. (2008). The University Challenge We Must Take Up. Scottish Daily Mail. Glasgow. 24 September 2008: 16.
- Maton, K. (2005). "A Question of Autonomy: Bourieu's Field Approach and Higher Education Policy." Education Policy 20(6): 687-704.
- Maxwell, J. A. (1992). Understanding and Validity in Qualitative Research. The Qualitative Researcher's Companion. A. M. Huberman and M. B. Miles. Thousand Oaks, Sage Publications, Inc.
- May, C. (2002). The Information Society: A Sceptical View. Cambridge, Polity Press.
- May, T. (2001). Social Research: Issues, Methods and Process, Buckingham.
- McCrone, D. (2001). Understanding Scotland: The Sociology of a Nation. Abingdon, Routledge.
- McCrone, D. (2002). Scotland, Small?: Making Sense of Nations in the 21st Century. New Politics: New Governance: The Experience of Scottish Devolution, 18 October 2002. Stockholm, Sweden.
- McCrone, D. (2003). Culture, Nationalism and Scottish Education: Homogeneity and Diversity. Scottish Education, Second Edition: Post-Devolution. T. G. K. Bryce and W. M. Humes. Edinburgh, Edinburgh University Press.
- McCrone, D. (2004). Cultural Capital in an Understated Nation: The Case of Scotland. Symposium on Cultural Capital and Social Exclusion, 8-9 January 2004. St Hugh's College, University of Oxford.
- McCrone, D. (2005). The Same, But Different: Why Scotland? Annual Seminar of the BSA Scottish Studies Group.
- McCrone, D. (2007). Recovering Civil Society: Does Sociology Need It? European Sociological Association Conference, September 2007. Glasgow.
- McCrone, D. (2008). Explaining Scotland: Does the Exception Prove the Rule? AHRC Crosscurrents Postgraduate Conference, 19 April 2008. University of Strathclyde, Institute of Governance, The University of Edinburgh.
- McNay, I. (1994). "The Regional Dimension in Strategic Planning of Higher Education." Higher Education Quarterly 48(4): 323-336.
- McPherson, A. and C. D. Raab (1988). Governing Education: A Sociology of Policy Since 1945. Edinburgh, Edinburgh University Press.
- McPherson, A. F. (1983). An Angle on the Geist: Persistence and Change in Scottish Educational Tradition. Scottish Culture and Scottish Education, 1800-1980. W. M. Humes and H. M. Paterson. Edinburgh, John Donald: 216-243.

- Merton, R. K. (1957). "Priorities in Scientific Discovery: A Chapter in the Sociology of Science." American Sociological Review **22**(6): 635-659.
- Merton, R. K. (1972). "Insiders and Outsiders: A Chapter in the Sociology of Knowledge." The American Journal of Sociology **78**(1): 9-47.
- Meyer, H.-D. (2002). "The New Managerialism in Education Management: Corporatization or Organizational Learning?" Educational Administration **40**(6): 534-551.
- Mikkelsen, M. (2006). "Policy Network Analysis as a Strategic Tool for the Voluntary Sector." Policy Studies **27**(1): 17-26.
- Miller, H. (1998). "Managing Academics in Canada and the United Kingdom." International Studies in Sociology of Education **8**(1): 3-24.
- Miller, H. T. (1994). "Post-Progressive Public Administration: Lessons from Policy Networks." Public Administration Review **54**(4): 378-386.
- Mills, C. W. (1959). The Sociological Imagination. Oxford, Oxford University Press.
- Mintzberg, H. (1979). The Structuring of Organisations. Englewood Cliffs, New Jersey, Prentice Hall.
- Mintzberg, H. (1987). "Crafting Strategy." Harvard Business Review **July-August, 1987**: 66-74.
- Mohrman, K., W. Ma, et al. (2008). "The Research University in Transition: The Emerging Global Model." Higher Education Policy **21**: 5-27.
- Moore, C. and S. Booth (1989). Managing Competition: Meso-corporatism, Pluralism and the Negotiated Order in Scotland. Oxford, Clarendon Press.
- Musselin, C. (2007). The Transformation of Academic Work: Facts and Analysis. Berkeley, Centre for Studies in Higher Education, University of California, Berkeley.
- Nash, R. (1999). "Bourdieu, 'Habitus', and Educational Research: Is It All Worth the Candle?" British Journal of Sociology of Education **20**(2): 175-187.
- Neave, G. (1988). On Being Economical with University Autonomy: Being An Account of the Retrospective Joys of a Written Constitution. Academic Freedom and Responsibility. M. Tight. Milton Keynes, Open University Press.
- Neave, G. (2002). "Managing Research or Research management?" Higher Education Policy **15**: 217-224.
- Newman, J. H. (1982). The Idea of a University, Edited by. M. J. Svaglic. Notre Dame, University of Notre Dame Press.
- Nowotny, H., P. Scott, et al. (2003). "'Mode 2' Revisited: The New Production of Knowledge." Minerva **41**: 179-194.
- Nybom, T. (2003). "The Humboldt Legacy: Reflections on the Past, Present and Future of the

European University." Higher Education Policy **16**: 141-159.

O'Shea, T. (2004). Research Pooling in Scottish Universities.

OECD (1971). Science, Growth and Society: A New Perspective. Report of the Secretary General's Ad Hoc Group on New Concepts of Science Policy, Chaired by Harvey Brooks. Paris, OECD.

OECD (2009). Principal Economic Indicators, August 2009. Paris, OECD.

Office for National Statistics (2006). UK Balance of Payments, The Pink Book. London, HMSO.

Ozga, J. (1987). Studying Educational Policy Through the Lives of Policy Makers: An Attempt to Close the Macro-Micro Gap. Changing Policies, Changing Teachers. S. Walker and L. Barton. Milton Keynes, Open University Press.

Ozga, J. (1990). "Policy Research and Policy Theory: a Comment on Fitz and Halpin." Education Policy **5**(4): 359-362.

Ozga, J. (1998). "The Entrepreneurial Researcher: Re-formations of Identity in the Research Marketplace." International Studies in Sociology of Education **8**(2): 143-153.

Ozga, J. (2000). Policy Research in Educational Settings: Contested Terrain. Buckingham, Open University Press.

Ozga, J. (2002). "Education Governance in the United Kingdom: The Modernisation Project." European Educational Research **1**(2): 331-341.

Ozga, J. (2005a). Models of Policy Making and Policy Learning. Policy Learning in 14-19 Education, Joint Seminar of Education and Youth Transitions Project and Nuffield Review of 14-19 Education.

Ozga, J. (2005b). In the Public Interest? Research, Knowledge Transfer and Education Policy. Inaugural Lecture. Edinburgh, University of Edinburgh: 1-12.

Ozga, J. (2005c). "Modernizing the Education Workforce: a Perspective from Scotland." Educational Review **57**(2): 207-219.

Ozga, J. (2005d). Pressure for Convergence and Divergence in Education: Devolution in the Context of Globalisation. Education and Youth Transitions Project Working Paper No. 2. Centre for Educational Sociology. Edinburgh, University of Edinburgh.

Ozga, J. (2005e). Travelling and Embedded Policy: The Case of Post-Devolution Scotland Within the UK. Globalization and Nationalism in Education, World Yearbook of Education 2005. D. Coulby and E. Zambeta. London, Routledge Falmer.

Ozga, J. and R. Jones (2006). "Travelling and Embedded Policy: the Case of Knowledge Transfer." Journal of Education Policy **21**(1): 1-17.

Ozga, J., T. Seddon, et al. (2006). Education Research and Policy - Steering the Knowledge-Based Economy. World Yearbook of Education 2006. J. Ozga, T. Seddon and T. S. Popkewitz. Abingdon, Routledge.

- Papadakis, N. and T. Tsakanika (2006). "The European Union Higher Education Policy and the Stake of Regionalization." The European Legacy 11(3): 289-297.
- Parker, M. (2002). Against Management: Organization in the Age of Managerialism. Cambridge, Polity Press.
- Parsons, W. (1995). Public Policy: An Introduction to the Theory and Practice of Policy Analysis. Cheltenham, Edward Elgar.
- Paterson, L. (2000). Traditions of Scottish Education. Scottish Life and Society: Institutions of Scotland: Education. H. Holmes. East Linton, Tuckwell Press.
- Paterson, L. (2003a). "The Survival of the Democratic Intellect: Academic Values in Scotland and England." Higher Education Quarterly 57: 67-93.
- Paterson, L. (2003b). "The Three Educational Ideologies of the Labour Party (1997-2001)." Oxford Review of Education 29(2): 165-186.
- Paterson, L. (2003c). Scottish Education in the Twentieth Century. Edinburgh, Edinburgh University Press.
- Paterson, L. (2005). Education: The Importance of Culture. Edinburgh, The University of Edinburgh, Institute of Governance.
- Paterson, L., A. Brown, et al. (2001). New Scotland, New Politics? Edinburgh, Edinburgh University Press.
- Patterson, G. (1997). The University: From Ancient Greece to the 20th Century. Palmerston North, The Dunmore Press.
- Pestre, D. (2003). "Regimes of Knowledge Production in Society: Towards a More Political and Social Reading." Minerva 41: 245-261.
- Peters, M. (2001). "National Education Policy Constructions of the 'Knowledge Economy': Towards a Critique." Educational Enquiry 2(1): 1-22.
- Peterson, J. (2003). Policy Networks. Political Science Series. Vienna, Institute for Advanced Studies: 1-28.
- Phillips, L. and M. Jorgensen (2002). Discourse Analysis as Theory and Method. London, Sage.
- Polanyi, M. (1962). "The Republic of Science: Its Political and Economic Theory." Minerva 1(1): 54-85.
- Pollitt, C., S. Harrison, et al. (1992). No Hiding Place: On the Discomforts of Researching the Contemporary Policy Process. Critics and Customers: The Control of Social Policy Research. J. Vincent and S. Brown. Aldershot, Avebury.
- Popkewitz, T. S., S. Lindblad, et al. (1999). Review of Research on Education Governance and Social Integration and Exclusion. Uppsala Reports on Education 35. Uppsala, University of Helsinki.
- Porter, P. and L. Vidovitch (2000). "Globalization and Higher Education Policy." Educational

Theory **50**(4): 449-465.

Potocnik, J. (2005). "Building" Research Infrastructures for a Competitive Knowledge Europe. 3rd European Conference on Research Infrastructures. University of Nottingham, UK.

Preston, D. S. (2001). "Managerialism and the Post-Enlightenment Crisis of the British University." Educational Philosophy and Theory **33**(3): 343-363.

Priestly, M. (2002). "Global Discourses and National Reconstruction: the Impact of Globalization on Curriculum Policy." The Curriculum Journal **13**(1): 121-138.

Pring, R. (2004). Philosophy of Educational Research 2nd Edition. London, Continuum.

Prior, L. (2003). Using Documents in Social Research. London, Sage.

Raab, C. (1994). Where We Are Now: Reflections on the Sociology of Education Policy. Researching Education Policy: Ethical and Methodological Issues. D. Halpin and B. Troyna. London, Falmer Press: 17-30.

Raab, C. D. (1992). "Taking Networks Seriously: Education Policy in Britain." European Journal of Political Research **21**: 69-90.

Raab, C. D. (2001). "Understanding Policy Networks: A Comment on Marsh and Smith." Political Studies **49**: 551-556.

Radaelli, C. (1995). "The Role of Knowledge in the Policy Process." European Public Policy **2**(2): 553-577.

Raffe, D. (2003). How Distinctive is Scottish Education? Five Perspectives on Distinctiveness. Scottish Educational Research Association, Annual Conference, 27-29 November 2003. Perth.

Raffe, D., K. Brannen, et al. (1999). "Comparing England, Scotland, Wales and Northern Ireland: The Case for 'Home Internationals' in Comparative Research." Comparative Education **35**(1): 9-25.

Raffe, D. and D. Byrne (2005). Policy Learning From 'Home International' Comparisons. Centre for Educational Sociology Briefing No. 34. Edinburgh, University of Edinburgh.

Rap, E. (2006). "The Success of a Policy Model: Irrigation Management Transfer in Mexico." Journal of Development Studies **42**(8): 1301-1324.

Readings, B. (1996). The University in Ruins. Cambridge, Massachusetts and London, Harvard University Press.

Reay, D. (2004). "'It's All Becoming a Habitus': Beyond the Habitual Use of Habitus in Educational Research." British Journal of Sociology of Education **25**(4): 431-444.

Reed, M. (1999). From the 'Cage' to the 'Gaze': the Dynamics of Organisational Control in Late Modernity. Regulation and Organisations: International Perspectives. G. Morgan and L. Engwall. London, Routledge: 17-49.

Reynolds, D. (2002). Developing Differently: Educational Policy in England, Wales, Scotland and Northern Ireland. Devolution in Practice. J. Adams and P. Robinson. London, Institute for Public

Policy Research.

- Rhodes, R. A. W. (1996). "The New Governance: Governing Without Government." Political Studies **XLIV**: 652-667.
- Rhodes, R. A. W. (1997). Understanding Governance: Policy Networks, Governance, Reflexivity and Accountability. Maidenhead, Open University Press.
- Rhodes, R. A. W. (1998). "Different Roads to Unfamiliar Places: UK Experience in Comparative Perspective." Australian Journal of Public Administration **57**(4): 19-31.
- Rhodes, R. A. W. (2007). "Understanding Governance: Ten Years On." Organization Studies **28**(08): 1243-1264.
- Rhodes, R. A. W. and D. Marsh (1992). "New Directions in the Study of Policy Networks." European Journal of Political Research **21**: 181-205.
- Richards, D. (1996). "Elite Interviewing: Approaches and Pitfalls." Politics **16**(3): 199-204.
- Richardson, J. (2000). "Government, Interest Groups and Policy Change." Political Studies **48**: 1006-1025.
- Richardson, J. and A. G. Jordan (1985). Governing Under Pressure: The Policy Process in a Post-Parliamentary Democracy. Oxford, Martin Robertson.
- Riehl, C. (2001). "Bridges to the Future: The Contributions of Qualitative Research to the Sociology of Education." Sociology of Education **74**: 115-134.
- Robertson, R. (1995). Glocalization: Time-Space and Homogeneity-Heterogeneity. Global Modernities. M. Featherstone, S. Lash and R. Robertson. London, Sage.
- Robinson, S. E. (2006). "A Decade of Treating Networks Seriously." The Policy Studies Journal **34**(4): 589-598.
- Rose, N. (1999). Governing the Soul: The Shaping of the Private Self, 2nd Edition. London, Free Association Books.
- Sabatier, P. (1998). "The Advocacy Coalition Framework: Revisions and Relevance to Europe." European Public Policy **5**(12): 98-130.
- Sabatier, P. A. (1988). "An Advocacy Coalition Framework of Policy Change and the Role of Policy-Oriented Learning Therein." Policy Sciences **21**: 129-168.
- Sabatier, P. A. (1991). "Toward Better Theories of the Policy Process." PS: Political Science and Politics **24**(2): 147-156.
- Sabatier, P. A. (1993). Policy Change Over a Decade or More. Policy Change and Learning: An Advocacy Coalition Approach. P. A. Sabatier and H. C. Jenkins-Smith. Boulder, Westview Press, Inc.: 290.
- Sabatier, P. A., Ed. (2007). Theories of the Policy Process. Boulder, Westview Press.

- Sabatier, P. A. and H. C. Jenkins-Smith (1993). Policy Change and Learning: An Advocacy Coalition Approach. Boulder, Westview Press.
- Salter, B. and T. Tapper (2000). "The Politics of Governance in Higher Education: the Case of Quality Assurance." Political Studies **48**: 66-87.
- Schlager, E. (1995). "Policy Making and Collective Action: Defining Coalitions Within the Advocacy Coalition Framework." Policy Sciences **28**: 243-270.
- Scholte, J. A. (1997). "Global Capitalism and the State." International Affairs **73**(3): 427-452.
- Schumpeter, J. (1911). The Theory of Economic Development. Oxford, Oxford University Press.
- Schutz, A. (1963). Concept and Theory Formation in the Social Sciences. Philosophy of the Social Sciences. M. Natanson. New York, Random House.
- Scotland, J. (1969). The History of Scottish Education: Volume 2. London, University of London Press.
- Scott, J. C. (2006). "The Mission of the University: Medieval to Postmodern Transformations." Journal of Higher Education **77**(1): 1-39.
- Scott, P. (1997). "The Changing Role of the University in the Production of New Knowledge." Tertiary Education and Management **3**(1): 5-14.
- Scottish Executive (2000). The Way Forward: Framework for Economic Development in Scotland. Edinburgh, Scottish Executive.
- Scottish Executive (2001). A Science Strategy for Scotland, Enterprise and Lifelong Learning.
- Scottish Executive (2006). A Science Strategy for Scotland 2001: Progress Report, Case Study 8: Research Pooling. Edinburgh, Scottish Executive.
- Scottish Funding Council (2005). Knowledge Transfer from Scotland's Higher Education Institutions - Progress and Prospects, Report of the Joint SHEFC / Universities Scotland Taskforce on Knowledge Transfer. Edinburgh, Scottish Funding Council and Universities Scotland.
- Scottish Funding Council (2006). Corporate Plan 2006-2009. Edinburgh, Scottish Funding Council.
- Scottish Funding Council (2007). Research Pooling in Medical Imaging, SFC/07/55, 2007. Edinburgh, Scottish Funding Council.
- Scottish Government (2008). New Horizons: Responding to the Challenges of the 21st Century, The Report of the Joint Future Thinking Taskforce on Universities. Edinburgh, Scottish Government.
- Scottish Science Advisory Committee (2004). Science Matters: Making the Right Connections for Scotland. Edinburgh, Scottish Science Advisory Committee.
- Seale, C. (1999). "Quality in Qualitative Research." Qualitative Inquiry **5**(4): 465-478.
- Seddon, T. (1996). "The Principle of Choice in Policy Research." Education Policy **11**(2): 197-214.

Shanghai Jiao Tong University (2007). Academic Ranking of World Universities. Shanghai, Shanghai Jiao Tong University, Institute of Higher Education.

Shanghai Jiao Tong University (2008). Academic Ranking of World Universities. Shanghai, Shanghai Jiao Tong University, Institute of Higher Education.

Shattock, M. (1999). "Governance and Management in Universities: the Way We Live Now." Education Policy 14(3): 271-282.

SHEFC (2001). "Consultation Document."

SHEFC (2001). The Scottish Higher Education Research Base: An Investigation of Shape, State and Potential Informed by the 2001 UK-Wide Research Assessment Exercise. Edinburgh, Scottish Higher Education Funding Council.

SHEFC (2003). Minutes of the One-Hundred and Third Meeting of the Scottish Higher Education Funding Council, HE/2003/MIN5.

SHEFC (2004a). Strategic Research Development Grant: Call for Proposals, Circular HE/16/04.

SHEFC (2004b). Enhancing Research Competitiveness Through the Pooling of Research Resources, Circular HE/31/04.

SHEFC (2004c). Green Light for Research Pooling, News Release PRHE/06/04, 29 November 2004. Edinburgh, SHEFC.

SHEFC and G. Boulton (2002). The Role and Effectiveness of Research in Scottish Universities, Paper for SHEFC Research Policy Advisory Committee, HE/RPAC/02/15, 16 May 2002. Edinburgh, Scottish Higher Education Funding Council.

Simons, M., B. Haverhals, et al. (2007). "The University Revisited." Studies in Philosophy and Education 26: 395-404.

Slaughter, S. and L. L. Leslie (1997). Academic Capitalism: Politics, Policies and the Entrepreneurial University. Baltimore MD, Johns Hopkins University Press.

Slee, R. (1998). "Higher Education Work in the Reductionist Age." International Studies in Sociology of Education 8(3): 255-269.

Smith, A. (1986). The Ethnic Origins of Nations. Oxford, Basil Blackwell.

Smith, D. (1999). The Changing Idea of a University. The Idea of a University. D. Smith and A. K. Langslow. London, Jessica Kingsley Publishers.

Smith, D. (2001). "Collaborative Research: Policy and the Management of Knowledge Creation in UK Universities." Higher Education Quarterly 55: 131-157.

Sorensen, E. (2005). "The Democratic Problems and Potentials of Network Governance." European Political Science 4: 348-357.

Stake, R. E. (1978). "The Case Study Method in Social Inquiry." Educational Researcher(7 February): 5-8.

- Stake, R. E. (1995). The Art of Case Study Research. Thousand Oaks, CA, Sage.
- Stake, R. E. (2003). Case Studies. Strategies of Qualitative Inquiry, 2nd Edition. N. K. Denzin and Y. S. Lincoln. Thousand Oaks, Sage Publications, Inc.
- Stehr, N. (1994). Knowledge Societies: The Transformation of Labour, Property and Knowledge in Contemporary Society. London, Sage.
- Stehr, N. (2002). Knowledge and Economic Conduct: The Social Foundations of the Modern Economy. Toronto, University of Toronto Press.
- Stehr, N. (2002). A World Made of Knowledge. New Knowledge and New Consciousness in the Era of the Knowledge Society, 31 January 2002. Budapest.
- Stenbacka, C. (2001). "Qualitative Research Requires Quality Concepts of Its Own." Management Decision **39**(7): 551-555.
- Stilwell, F. (2003). "Higher Education, Commercial Criteria and Economic Incentives." Higher Education Policy and Management **25**(1): 51-61.
- Tadmor, Z. (2006). "The Triad University or a Post 20th Century Research University Model." Higher Education Policy **19**: 287-298.
- Tapper, T. (2007). The Governance of British Higher Education: The Struggle for Policy Control. Dordrecht, Springer.
- Tapper, T. and B. G. Salter (1995). "The Changing Idea of University Autonomy." Studies in Higher Education **20**(1): 59-71.
- Taylor, S. and M. Henry (2000). "Globalization and Educational Policy Making." Educational Theory **50**(4): 487-503.
- Taylor, S., F. Rizvi, et al. (1997). Educational Policy and the Politics of Change. London, Routledge.
- Thatcher, M. (1998). "The Development of Policy Network Analyses." Theoretical Politics **10**(4): 389-416.
- Thomas, R. J. (1995). Interviewing Important People in Big Companies. Studying Elites Using Qualitative Methods. R. Hertz and J. B. Imber. Thousand Oaks, Sage Publications.
- Thomson, P. (2005). "Bringing Bourdieu to Policy Sociology: Codification, Misrecognition and Exchange Value in the UK Context." Education Policy **20**(6): 741-758.
- Thorelli, H. B. (1986). "Networks: Between Markets and Hierarchies." Strategic Management **7**(1): 37-51.
- Thrupp, M. (2002). "Review: Education Policy and Social Change." British Journal of Sociology of Education **23**(2): 321-332.
- Torring, J. (2005). "Governance Network Theory: Towards a Second Generation." European Political Science **4**: 305-315.

- Treib, O., H. Bahr, et al. (2007). "Modes of Governance: Towards a Conceptual Clarification." European Public Policy 14(1): 1-20.
- Tripp, D. H. (1985). "Case Study Generalisation: An Agenda for Action." British Educational Research 11(1): 33-43.
- Trow, M. (1974). Problems in the Transition from Elite to Mass Higher Education. OECD (Ed.) Policies for Higher Education. Paris, OECD: 51-101.
- Trowler, P. (1998). Education Policy: A Policy Sociology Approach. Eastbourne, Gildredge Press Ltd.
- Trowler, P. (2001). "Captured by the Discourse? The Socially Constitutive Power of New Higher Education Discourse in the UK." Organization 8(2): 183-201.
- Unesco (2002). Unesco Universal Declaration on Cultural Diversity. Paris, Unesco.
- Unesco (2005). Towards Knowledge Societies, Unesco World Report. Paris, Unesco Publishing.
- Universities Scotland (2002). The Knowledge Society: A Submission to the Scottish Higher Education Review. Edinburgh, Universities Scotland.
- Universities Scotland (2007). Helping to Transform Scotland, 2007 Spending Review: Universities Scotland Case. Edinburgh, Universities Scotland.
- Urry, J. (1998). Contemporary Transformations of Time and Space. The Globalization of Higher Education. P. Scott. Buckingham, Society for Research into Higher Education and Open University Press.
- Vaira, M. (2004). "Globalization and Higher Education Organisational Change: A Framework for Analysis." Higher Education 48: 483-510.
- van Zanten, A. (1997). "Schooling Immigrants in France in the 1990s: Success or Failure of the Republican Model of Integration?" Anthropology and Education Quarterly 28: 351-374.
- Vidovich, L. (2007). "Removing Policy From its Pedestal: Some Theoretical Framings and Practical Possibilities." Educational Review 59(3): 285-298.
- Walford, G., Ed. (1994). Researching the Powerful in Education. London, UCL Press.
- Walker, A. (2004). "Understanding Social Capital Within Community / Government Policy Networks." Social Policy Journal of New Zealand 22: 1-18.
- Walker, M. (2001). Higher Education, Critical Professionalism and Educational Action Research. Debates in Higher Education. London, University College London.
- Wallace, S. (2006). "National Identity and the Idea of the University in 19th Century Scotland." [http://hep.oise.utoronto.ca/Special Issue/](http://hep.oise.utoronto.ca/Special%20Issue/): 124-146.
- Webb, J. (1999). "Work and the New Public Service Class?" Sociology 33(4): 747-766.

- Wojtas, O. (2009). Pooling Hailed as Key to Scottish Improvement. Times Higher Education, 1 January 2009.
- World Bank. (2008). "Tertiary Education." Retrieved 26 June 2008, from <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTEDUCATION/0,,contentMDK:20298183~menuPK:617592~pagePK:148956~piPK:216618~theSitePK:282386,00.html>.
- World Bank. (2008). "Knowledge for Development (K4D)." Retrieved 18 July, 2008, from <http://web.worldbank.org/WBSITE/EXTERNAL/WBI/WBIPROGRAMS/KFDLP/0,,contentMDK:20269026~menuPK:461205~pagePK:64156158~piPK:64152884~theSitePK:461198,00.html>.
- Wright, N. (2001). "Leadership, 'Bastard Leadership' and Managerialism: Confronting Twin Paradoxes in the Blair Education Project." Educational Management and Administration 29(3): 275-290.
- Wrong, D. H. (1995). Power: Its Forms, Bases, and Uses. New Brunswick, Transaction Publishers.
- Yin, R. K. (1981). "The Case Study Crisis: Some Answers." Administrative Science Quarterly 26: 58-65.
- Yin, R. K. (2003). Case Study Research: Design and Methods. Thousand Oaks, Sage Publications, Inc.
- Zanten, A. v. (2006). Competition and Interaction Between Research Knowledge and State Knowledge in Policy Steering in France: National Trends and Recent Effects of Decentralisation and Globalisation. Education Research and Policy: Steering the Knowledge-Based Economy. J. Ozga, T. Seddon and T. S. Popkewitz. Abingdon, Routledge.
- Ziman, J. (2000). "Commentary on The Republic of Science: Its Political and Economic Theory by Michael Polanyi." Minerva 38: 1-32.

Initial Contact Letter

Dear

I am undertaking Doctoral level research into the process of formation of the Scottish Funding Council's Research Pooling policy and would very much appreciate your input into my research.

The purpose of the research is to gain an understanding of the way the policy process unfolded from the perspective of the key individuals involved and therefore your experience and reflections on the processes and dynamics of policy development are particularly important.

If agreeable, your input would be by way of a structured interview of approximately an hour to an hour and a half at a date and time convenient to you. I would be grateful if I could record our conversation in order to ensure the accuracy of my notes and to assist in subsequent analysis. Following our discussion I would like to come back to you with analytic notes to check that I have interpreted your experience and comments correctly if that is acceptable. In the thesis I will not refer to you by name, unless you give me permission to do so, but will refer to your job title and institution.

The outcome of this research will form the basis of my thesis for the Doctorate in Education at The University of Edinburgh where my supervisor is Jenny Ozga, Professor of Educational Research and Director of the Centre for Educational Sociology.

The following are the broad areas I would hope to cover in the overall research and perhaps we could touch on some of these in our discussion:

- What were the context and drivers of the research pooling policy? What brought it onto the agenda?
- What were your motivations, interests and strategic aims for research pooling?
- To what extent is research pooling a particularly Scottish solution?
- What were the key issues and controversies before agreement was reached? Who moved them on and how? What would have happened if no agreement had been reached?
- How was support for research pooling policy mobilised and built up?
- Why was the policy development process able to proceed apparently quickly from first discussions to announcement of the first research pools.
- What was your overall experience of the policy development process?

I do hope you will be able to give my request your fullest consideration and I look forward to hearing from you at your convenience.

Yours sincerely

Interview Outline with Prompts

Interview questions

What were the context and drivers of the research pooling policy? What brought it onto the agenda?

- What were the origins of the idea of research pooling?
- How far back does the thinking go?
- What was the policy context? How is Research Pooling related to previous policies on university research?

What were your motivations, interests and strategic aims for research pooling?

- Protecting the discipline? Growing the Schools?
- Strengthening Schools', University's, Scotland's research capability?
- Preparing for next Research Assessment Exercise? Creating something new?

Why was the policy development process able to proceed apparently quickly from first discussions to announcement of the first research pools.

- Shefc minutes speak of the need for urgency, how were you able to move quickly? What factors helped or hindered you?
- You were involved in the policy as it was being developed for implementation, was the process how you had previously experienced policy development, or thought it would be? If it was different, in what ways? (quick, direct, informal, personal...) Were 'normal' processes set aside to enable the policy to develop quickly – in the University? In Shefc?

How was support for research pooling policy mobilised and built up?

- Who did you engage with and in the development of policy as it related to you? Deans of Science in Scottish universities?
- Who did you need to talk to, persuade, convince, gain the support of? How much did you tell people what was going on and when?
- Did the you need to bring colleagues and staff along? How was that achieved? How was the decision built-up? How was support mobilised? Was the decision / policy presented and sold or was it handled in another way?
- What contributed to the widespread support the policy received? How was buy-in achieved?
- Why was the way the policy was presented as not being imposed by Shefc important?

What were the key issues and controversies before agreement was reached? Who moved them on and how? What would have happened if no agreement had been reached?

- What alternatives were there?
- Who would you identify as being key to the development of the policy / most influential? Who had the power, the energy to make it happen?
- The Shefc minutes refer to the issue of institutions deciding how much 'sovereignty' to pool in a collaboration. As the policy was being developed was this an issue you experienced?
- How were other universities with less developed research portfolios kept on board and supportive?

To what extent is research pooling a particularly Scottish solution?

- What conditions made it appropriate here? Are there aspects of the way Scotland's universities operate that make research pooling an attractive model? Are there aspects of Scottish universities' values, traditions, experience, that make research pooling more suitable than concentrating research resources in particular universities as proposed in England?
- Shefc minutes refer to exploiting two of Scotland's inherent advantages: its scale and strong national identity, saying that these tend to make collaborative ventures easier in Scotland than elsewhere. Is that a view you support? How have you experienced these characteristics? Were these factors important to you?
- How would you describe the characteristics of the higher education sector in Scotland in the era of research pooling

What was your overall experience of the policy development process?

- Innovative? Informal? Fast?
- Were personal relationships important?
- We talk of policy networks... were you conscious of being part of a network?
- Did it feel as if you were influencing policy in a new way, or did it feel much like the usual way in which policy is developed?

List of Interviewees

Scottish Government	Deputy First Minister, Minister for Enterprise and Lifelong Learning Head of Enterprise, Transport and Lifelong Learning Department Head of Higher Education and Learner Support
SHEFC	Chairman Chief Executive Director of Research Policy and Strategy Council Member
Universities	The University of Dundee, Principal and Vice Chancellor The University of Edinburgh, Principal and Vice Chancellor The University of Glasgow, Principal and Vice Chancellor The University of Edinburgh, Vice Principal and Head of College
Academics	Head of Department, The University of Edinburgh Head of Department, The University of St. Andrews Member of Department Senior Management Team, The University of Edinburgh
Other HE Bodies	Director, Universities Scotland Chair, Scottish Science Advisory Committee